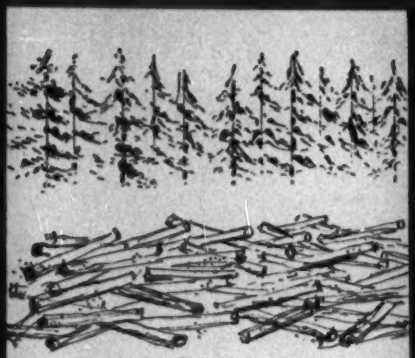
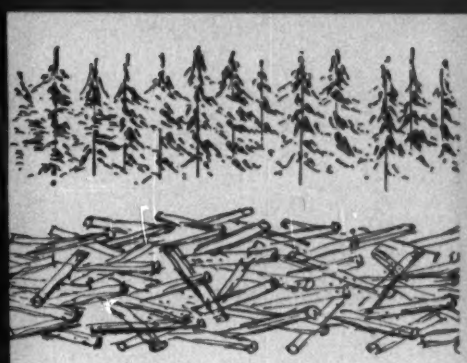
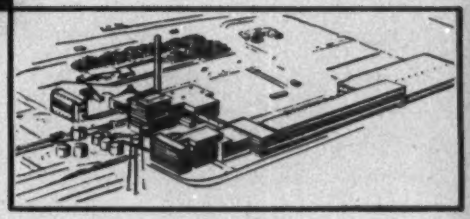
Apr. 27, 1951

DOES GOOD CARE OF BATTERIES PAY OFF?
. . . See Page 18

CAN STRONG HARDBOARD BE MADE FROM WATER-SOAKED DOUGLAS FIR CHIPS?
. . . See Page 20

Paper TRADE JOURNAL



From Forest to Pulp to Paper—

The *Engineer* plans for your progress and preparedness

During the last three decades, the Southern Pine and the South's abundant hardwood have become much more than sources of turpentine and lumber. During that time they have invaded homes and factories throughout the country in the form of kraft paper, newsprint, protective packing, tissue and many other products for daily living. These changes, brought about by pioneering management and the Engineer are still going on. From forest planning and control through the intricacies of pulp and paper to the problems of personnel and markets, the Engineer brings together the many elements that help these age-old products of nature serve man's progress and preparedness in many new ways.

Engineers for 49 years... **J. E. SIRRINE COMPANY**

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Pressure-Seal Bonnet Gate—available in 600, 900, and 1500 pound classes

You spend less for it by using Dependable Quality

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Big maintenance savings can be made on high-pressure/high-temperature piping services by using Crane Pressure-Seal Bonnet valves in place of bolted bonnet valves. Once installed, these valves rarely need maintenance of the bonnet joint—line pressure keeps it leak-tight.

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Other outstanding and typical features of Crane Pressure-Seal Bonnet Joint design are tailored-to-the-service alloy steels, Stellite trim, deep stuffing box, and flexible wedge disc in larger gates. In gates, globes, angles, or stop-checks, these valves are an investment in better piping performance at lower ultimate cost.

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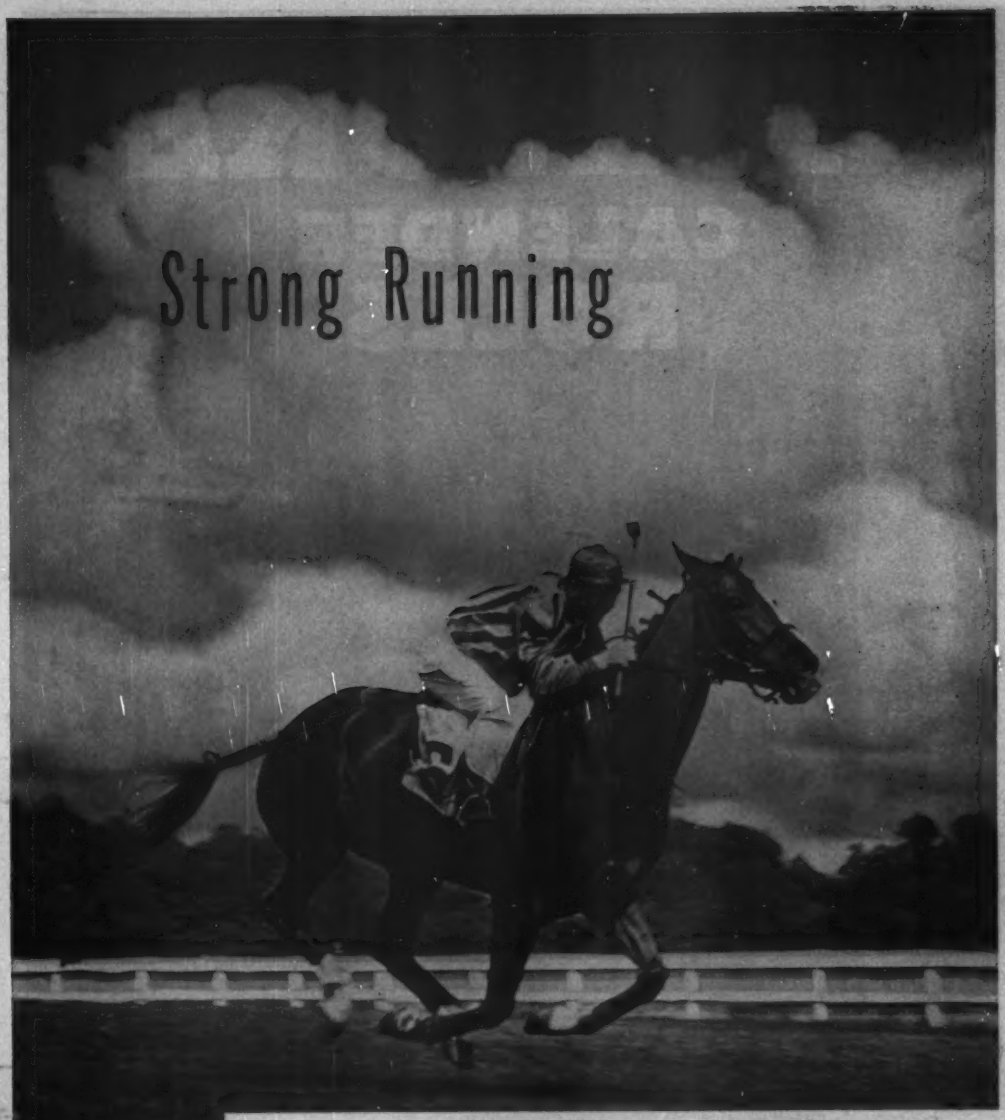

TENAX FELTS are strong running in your paper making machines. They are tough and tenacious for long lasting operation. Tenax Felts bring you economy as well as efficiency to make your business more profitable.

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LOCKPORT FELT COMPANY · NEWFANE, N. Y.

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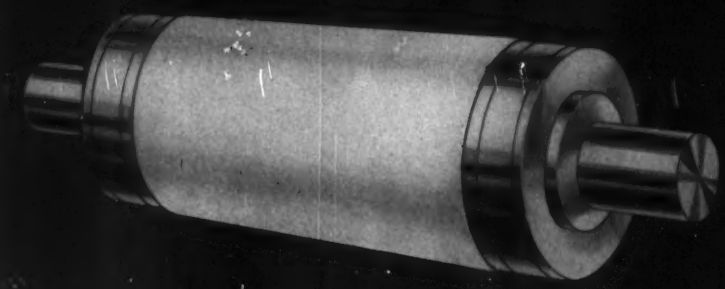
CALENDER ROLLS



HOLYOKE MACHINE COMPANY

CALENDER ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

Paper TRADE JOURNAL

VOL. 132 APRIL 27, 1951 No. 17

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NEXT WEEK

How the Statler Hotel Chooses the many grades of paper it uses to service its 3,776,067 room guests per year, will be outlined in "Paper in the Hotel Industry" by E. Hershberger of the Statler Press.

A new method for making a useful, saleable product from hardwoods is described in "Hardboards from Hardwoods" by Eduard Farber, chief chemist, Timber Engineering Co.

REMEMBER THESE DATES

APRIL 30 - MAY 4: Materials Handling Conference; Held concurrently with Nat'l. Materials Handling Expo., International Amphitheatre, Chicago, Ill.

MAY 4-5: American Pulp & Paper Mill Supts. Ass'n. Northwestern Div., Spring Meeting, Radisson Hotel, Minneapolis, Minn.

MAY 7-11: Forest Products Research Society, Annual Meeting and Industry Show of 1951, Convention Hall, Philadelphia, Pa.

MAY 11-12: American Pulp & Paper Mill Supts. Ass'n., Penn. New Jersey-Delaware Div., at Hotel Easton, Easton, Pa.

MAY 15-16: American Institute of Chemical Engineers, Regional Meeting, Hotel Muehlebach, Kansas City, Mo.

MAY 25: The Miami Valley Div., of the American Pulp & Paper Mill Supts. Ass'n. meeting at the plant of the Orr Felt and Blanket Co., Piqua, Ohio.

JUNE 3-6: National Paper Box Mfrs. Assn., Haddon-Hall, Atlantic City, N. J.

JUNE 18-22: American Society for Testing Materials, Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.

JUNE 22-23: Maine-New Hampshire Section of TAPPI, meeting to be held at the Eastern Slope Inn at North Conway, N. H.

JUNE 24-28: American Pulp & Paper Mill Supts. Ass'n. National Convention, to be held at the Multnomah Hotel, Portland, Oregon.

JUNE 27-30: Empire State TAPPI, meeting at the White Face Inn, Lake Placid, N. Y.

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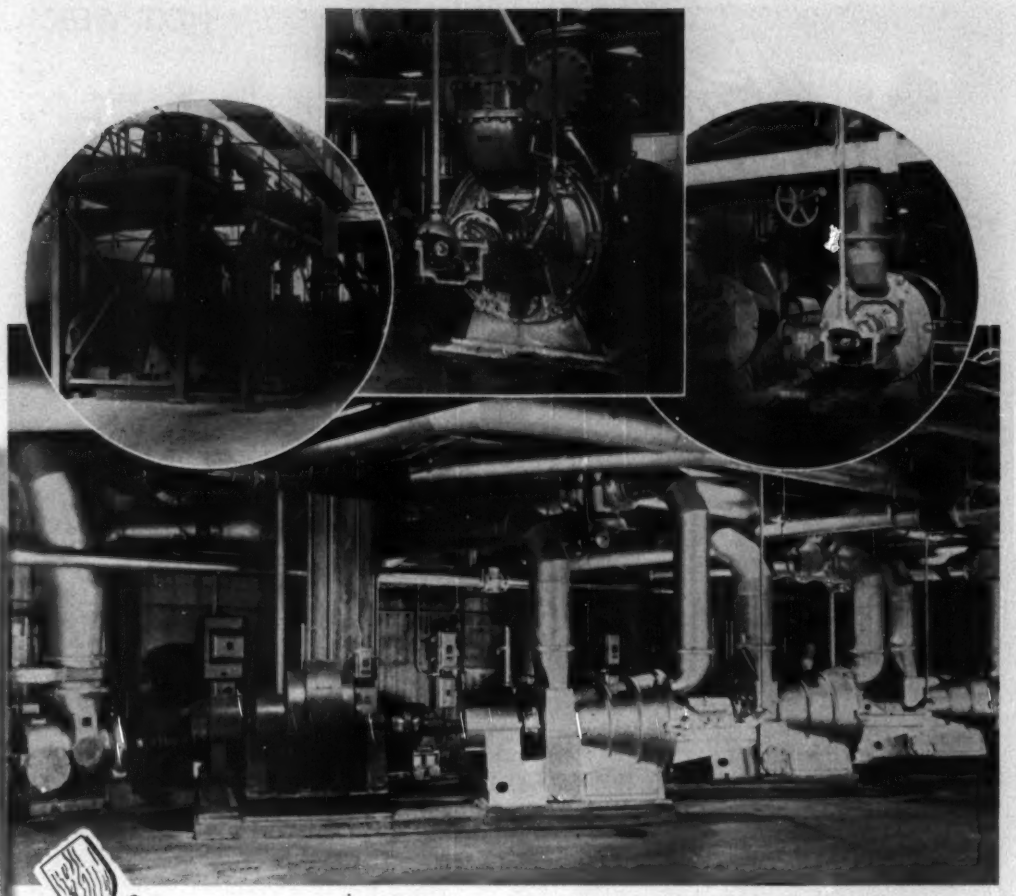

Why punish Freddie Fiber!

That is exactly what many a mill is doing—jordaning the stock far too much—shortening the fibers—lowering the freeness—impairing the formation on the machine.

How much better to replace some of your jordans with HYDRAFINERS and do a BALANCED refining job—hydrate, fray and fibrillate the fiber in HYDRAFINERS and avoid cutting it to pieces—use jordans just enough to give you control on the machine!

A list of mills as long as your arm now use HYDRAFINERS, balance-refine their stock, and swear by this better procedure—a matter we would like very much to discuss with you.

Contact Shartle or Dilts

SHARTLE BROTHERS MACHINE COMPANY, MIDDLETOWN, OHIO

DILTS MACHINE WORKS, Fulton, New York
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Western Sales Office: Mayer Bldg., Portland, Oregon
Southern Sales Office: 937 Coventry Road, Decatur, Georgia

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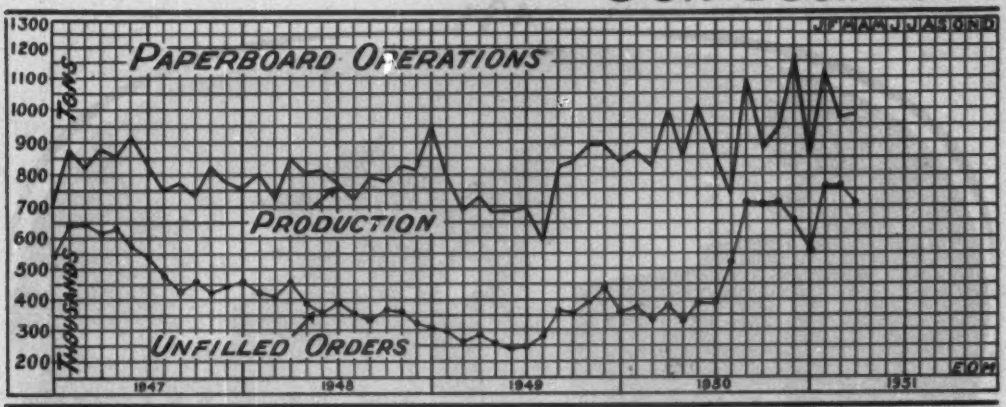
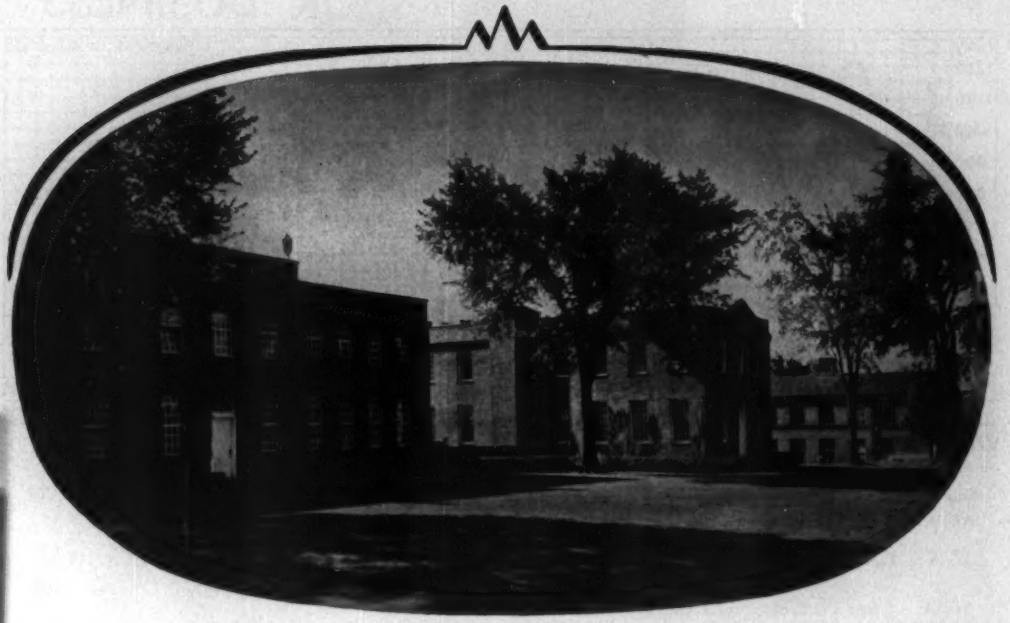
Subsidiary: B-C INTERNATIONAL, LTD., Greener House, 66/68 Haymarket, London, S. W. 1, England



Weekly Brief of Important Figures

Source	Production	WEEK ENDING Apr. 14, '51	Mar. 17, '51	Apr. 15, '50
APPA	Paper Production Percent Capacity[3]	104.1	103.1	94.4
	Unbl. Kraft Paper Production Percent	96.2	98.2	91.3
NPA	Paperboard Operating Ratio Percent Inch Hours	102	106	88
		Mar. 1951	**Feb. 1951x**	**Mar. 1950**
APPA	Paper Production[4] (Except Newsprint and Building Papers) ..... Tons	913,000	818,628	837,187
	New Orders ..... Tons	958,000	816,052	854,627
	Unfilled Orders ..... Tons	980,880	938,390	532,750
	Shipments ..... Tons	916,000	810,035	840,905
		Mar. 1951	**Feb. 1951**	**Mar. 1950**
NPA	Paperboard Production ..... Tons	984,405	977,946	908,600
	New Orders ..... Tons	946,819	987,609	952,600
	Unfilled Orders ..... Tons	704,936	758,562	371,800
	Our Customers Activities Index[1]	**Latest Mo.[6]**	**Previous Mo.[6]**	**Year Ago[6]**
FRS	Manufactures Total Index	225	227	189
	Durable Mfg. Index	263	266	206
	Nondurable Mfg. Index	194	196	175
	Chemical Products Index	286	286	249
	Mfg. Food Products Index	150	160	149
	Printing and Publishing Index	172	180	157
ODC	Magazine Advg.-Printer's Ink Index	319	342	326
	Retail Sales Combined Adjusted Index	364.4	343.4	299.9
	Drug Index	230.6	224.5	220.9
	General Merchandise Group Index	375.7	332.5	290.3
	Grocery and Combination Index	422.5	424.4	356.0
	Prices Index			
BLS	Consumers Price Index[1]	181.5	178.8	168.2
	Wholesale all Commodities[2]	180.0	175.3	151.5
	Wholesale Foods[2]	182.3	179.0	154.8
	Commodities other than Farm Products and Foods[2]	170.2	166.6	145.8
	Wholesale Pulp and Paper[2]	196.5	189.0	155.9
	Purchasing Power of Dollar, Consumers Prices[1]	55.1	55.9	59.5
	General Activity Index			
FRS	Mfg. Production-Worker Payroll	424.9	415.1	329.2
	Unemployment Compensation Initial Claims (M)	1,080	1,051	1,725
	Miscellaneous Carloadings–Thousands of Cars	1,498	1,814	1,240
	Electric Output (Million KW hr.)	36,726	35,779	31,677
PTJ	Average 32 P & P Common Stocks as of April 17.	$38.97	$37.39	$32.38
	Average Indicated Dividends Common Stocks as of April 17	2.34	2.34	2.26

[1] 1935-39=100 Unadjusted Index
[2] 1926=100
[3] New 6-7 day basis.
[4] For details see APPA Monthly Statistical Summary—March 1951 Estimated Figures
[6] Latest Month Available on Request
x Revised figures.



THE VANDERBILT LABORATORIES

Norwalk, Conn.

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For Testing and Developing
Methods of Improving
Paper Products

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R. T. VANDERBILT CO., Inc.

230 Park Avenue, New York City

Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, April 25, 1951.

Chalk up the 25th day of the month as the day of reckoning with OPS. The manufacturers' pricing order was released today. The 25th also was the date on which prices were frozen by the General Ceiling Pricing Regulation.

Recalling the ready wit of the Price Administrator, one wonders if this is pure coincidence or if the 25th is a favorite date with him. With due recognition of the obvious study which was given by the Office of Price Stabilization to the marketing problems peculiar to each industry, it also can be said that this order is still no Christmas gift.

Pricing regulations and other controls are, as Economic Stabilizer Johnston recently remarked, unwanted by business. Few if any of the millions who wear eyeglasses like them, but when there is no choice between faulty vision and headaches on the one hand and spectacles on the other, the corrective is acceptable. General business can hope this order is the right prescription for checking inflation. Administrating officials do not expect manufacturers to like either the pricing order or the basic policy for administering price controls, just made public by ESA.

Index to New Regulations*

Manufacturers' Pricing Regulation.—The order establishes base period for figuring ceiling prices of paper, paperboards and products April 1, 1950, to June 24, 1950. It permits rises in direct labor and raw material costs to March 15, 1951. A supplementary regulation will extend cut-off date for imported woodpulp to about April 16.

Basic Policy for Administering.— Describing current controls as "the interim phase of price control operations," Eric Johnston, Economic Stabilization Administrator, last week set forth the long-range policies under which prices could be increased.

In a letter to OPS made public prior to release of the new price order, Mr. Johnston cited basic standard:

(1) "The level of price ceilings for an industry shall normally be considered 'generally fair and equitable' under the Defense Production Act if the dollar profits of the industry amount to 85 percent of the average for the industry's best three years during the period 1946-1949, inclusive. The profits should be figured before Federal income and excess profits taxes and after normal depreciation only, with adjustments made for any changes in net worth.

M-36 Paper Set-aside Order.—Changes in set-asides for government needs were released April 20. Designed "to spread orders more equitably among paper mills," the order increases Federal requirements of groundwood uncoated book from 5 to 10 percent, of machine coated book from 5 to 10, and cuts other book from 10 percent to 5.

*For details, see Government Gospel.

Table I

March Paper Production

	March, 1951* Production Tons	February, 1951 Production Tons	% Changes in Daily Production: March, 1951 compared with February, 1951	% Changes in Daily Production: March, 1951 compared with March, 1950
A. Printing Papers	310,000	280,096	— 1.6	+ 7.7
B. Fine Papers	116,000	99,669	+ 3.3	+11.1
C. Coarse Papers	308,000	274,906	— 0.4	+ 2.5
D. Tissue Papers	132,000	119,457	— 1.8	+18.1
E. Miscellaneous Papers	47,000	44,500	— 6.1	+29.9
F. Total, Groups A-E	913,000	818,628	— 0.9	+ 8.5
Total Paper, Newsprint, Building Paper, Paperboard, and Building Board	2,364,000	2,097,779		

March, 1951 had three more working days than February and the same number as March, 1950. Source: APPA. * Estimated.

Fine Paper Market Trends

Summary of distributor conditions in the New York area indicate a definite easing of machine coated book—not free sheet. Conversion coateds are very tight.

Acute shortages of book grades exist among the small mills, and several have had to refuse orders until they can get abreast of their order backlog.

Dealers note a slight easing in pressure of demand; they are not so much oversold as they have been. Large printers have a good business but small houses are quiet. Distributors speak of the need to rebuild their own stocks before Fall business picks up, and welcome the current easing as a "breather."

Offsets and bonds are notably in short supply. Rag contents are as short as sulfite bonds as a result of cotton shortages.

Shortages of wood pulp among non-integrated or semi-integrated mills actually are the root of the matter. Mills speak of a need of northeastern domestic pulps to supply characteristics of the out-of-reach Swedish pulps.

Tissue Market Eases

Weakest part of the market is in napkins, facial and sanitary tissues, and towels. Describing the market as increasingly sloppy, distributors see the return of many mills to the production of the less-profitable wrapping tissues. Pickup is not expected before late summer or the early Fall.

Paperboards Easier

Easing of demand is noted in set-up boards, despite the fact that shortages of pulp have tightened the supply of white patent coateds and bleached manila lined. With backlogs of six or more weeks, mills welcome the lifting of the pressure.

Waste Papers Soft

Weakening of the tissue and set-up board markets of course have reacted on demand for waste paper pulp substitutes used in these products. Flyleaf and groundwood shavings are weaker, though prices were unchanged. High grades are easily available at ceiling prices. Krafts are strong. Old corrugated was dropped $5 per ton.

Bagging Definitely Weaker

Pinpoints of weakness noted in the bagging market two weeks ago now are fair-sized. Supplies of bagging are without takers at current prices. Buyer resistance is noted from the cotton industry, and mills appear to have stocks that permit them to stay out of today's market. Further easing is expected despite foreign high prices.

Newsprint Discussions

Opening of the International Materials Conference in Washington this week focuses attention on shortages of woodpulps and newsprint.

Simultaneously, Canada has declared newsprint, woodpulps and writing papers essential, and prepares to put them under Government regulation. To judge from the publicity from Canadian sources, it appears conclusive that Canada will increase its output and apportion the increase to non-Communist countries, now so greatly in need of newsprint to keep their people informed.

Newsprint shortages also will be a leading issue at the annual sessions of ANPA, convening this week at the Waldorf-Astoria.

It appears to many that U. S. publishers find it easier to give their sons to fight Communism than newsprint advertising space.

—E. P. N.

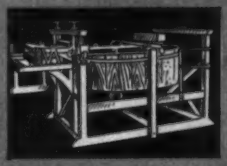
Paperboard Production (Tons)*

	Apr. 14 1951	Apr. 7 1951	Apr. 15 1950
Production	248,406	253,702	193,925
New Orders	199,937	328,223	171,468
Unfilled Orders	726,783	778,034	379,118

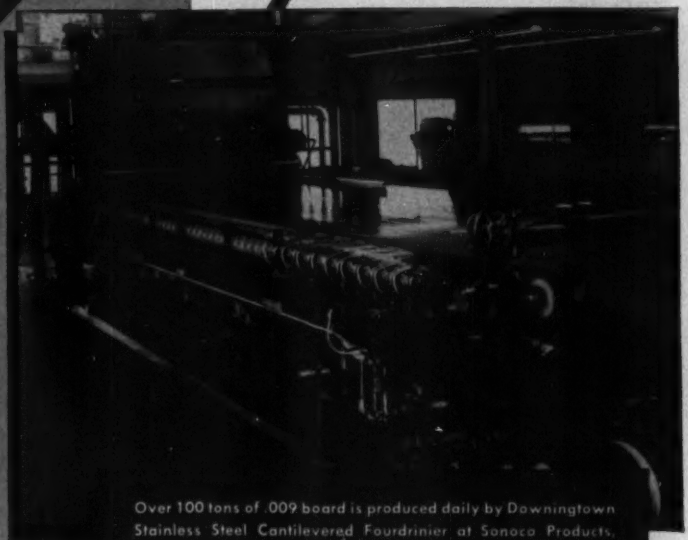
* Source: NPA.

FOURDRINIER'S *Folly* COMES OF AGE

1804



THE DOWNINGTOWN STAINLESS STEEL CANTILEVERED FOURDRINIER REACHES NEW HIGHS IN DESIGN AND MATERIAL IMPROVEMENTS



Over 100 tons of .009 board is produced daily by Downingtown Stainless Steel Cantilevered Fourdrinier at Sonoco Products, Inc., Hartsville, S. C. Wires are changed in 40 minutes.

What sceptics once called "Fourdrinier's Folly", has reached its highest point of development in the new Downingtown Stainless Steel *Cantilevered* Fourdrinier, which is setting records for flexibility, production, low maintenance costs and short "down time" for wire changes.

Corrosion, an important cause of excess "down time" for repair and replacements, has been effectively taken care of through the extensive use of stainless steel. In the Downingtown Stainless Steel *Cantilevered* Fourdrinier this highly corrosion resistant metal is used in suction boxes, head box, distributing rolls, high and low head suction slices, tubular shake rails and suveails.

The many design improvements and speed range from 150 to 1500 FPM make this machine unusually versatile . . . able to handle wide varieties of stock at speeds best suited for maximum production.

Consult your Downingtown engineer now about designs and costs for installing this modern Fourdrinier or write for complete information.

More Downingtown FOURDRINIER FEATURES

- **Dual Suction Box Couch Roll**
- **Flow Spreader**
- **Multiple Passes**
- **Foam Shower**
- **Faster Wire Changing**
- **In-operation Level Adjustment**
- **Improved Shake Rails**
- **Balanced Wire Rolls**
- **Motor-operated Stretchers**
- **Piping not disconnected when changing wires**

DOWNINGTON MANUFACTURING COMPANY, DOWNINGTOWN, PA.

Pacific Coast Representative: John V. Roslund, Pacific Bldg., Portland 4, Oregon.

DOWNINGTOWN

High point in flexibility

DESIGNERS AND BUILDERS OF PAPER MAKING MACHINERY SINCE 1880

News of the Week

Paper TRADE JOURNAL

NEW ZEALAND PLANS PROGRESS

OTTAWA—The New Zealand Forest Service has been planning the establishment of an integrated sawmill and pulp and paper mill at Murupara, on the Rangitaiki River, about 40 miles from Roturua.

Final reports now confirm the essential soundness of the scheme. Raw material is to be supplied from the 284,000 acres of Kaingaroa State Forest which is estimated to have a potential yield of 32 million cubic feet annually.

In full production, it is estimated that the integrated plant will produce some 100,000 tons of newsprint annually, 10,000 tons of other printing and writing paper, and 15,000 tons of pulp as well as 70 million board feet of timber. About 60,000 tons of newsprint, 60 million board feet of timber and between 10 and 15 thousand tons of pulp will be exported yearly, mostly to Australia.

As the forests have arrived at maturity, there is urgency in carrying out the project. The New Zealand Government is exploring ways and means of raising the necessary capital, much of which will have to be dollars for necessary purchase in the United States and Canada.

CORONADO SETS START-UP DATE

The Coronado Manufacturing Co., whose $4 million plant is under construction just outside the Oklahoma Ordnance Works a few miles south of Pryor, Okla., is scheduled to go into production of paper in January, 1952.

Coronado is a wholly-owned subsidiary of Certain-Teed Products Corp., and will make paper to be used in manufacture of gypsum sheeting, lath and wall board.

When completed the mill will turn out 100 tons of paper per day and will employ from 150 to 200 persons.

PORT ST. JOE EXPANDS

JACKSONVILLE, Fla. — The certificate of necessity awarded to the St. Joe Paper Co. of Jacksonville for the expansion of its pulp and fibre board plant at Port St. Joe, Fla., at an estimated cost of $24,010,958 will be expended to increase the capacity of the Port St. Joe plant from 400 tons to 750 tons of pulp a day. Work will be started as soon as materials are available. Details of the construction project will be announced later.

Left to right: H. M. Rice, H. J. Perry, George Brooks, Harold Spector and Horace Spencer . . . At the April meeting of Northern District, Empire State TAPPI, George W. Brooks, Educational Director Pulp & Paper Workers Union, A. F. of L. and Henry J. Perry, Editor of PAPER TRADE JOURNAL, spoke on the Political and Economic Problems of the Paper Industry.

ACQUITTED IN ANTI-TRUST CASE

The Government lost an Anti-Trust case against four leading San Francisco paper distributors and at the same time drew rebuke from the presiding judge for prosecuting a case based on "circumstantial evidence, surmise and conjecture," on April 18 in the Federal District Court of Northern California.

Federal Judge Louis E. Goodman delivered the reproof after a jury of eight men and four women took only twenty minutes to bring in a verdict for the defendants. On April 9, Judge Goodman directed the jury to return verdicts of acquittal of the executives named in the charges of collusive price fixing on the ground that there was no substantial evidence against the individuals: Arthur W. Towne, Blake, Moffitt & Towne; Harold J. Heyser, Carpenter Paper Co.; Edward R. McQuaid, Pacific Coast Paper Co.; and Thomas A. Leddy, Zellerbach Paper Co. The present verdict exonerates the respective companies of the same charges.

$5 MILLION SORG EXPANSION

OTTAWA—Canadian Forest Products Ltd. is understood to be planning to spend $5 millions on the Port Mellon pulp mill which it acquired from the Sorg Paper Co. and which is expected to go into production in May.

HINDE & DAUCH MODERNIZE

TORONTO, Ont. — Modernization and changes in the Hinde and Dauch Paper Co. of Canada Ltd. plant at Trenton are expected to increase production 40 to 50 percent.

A $200,000 program is expected to be completed by the end of the year.

WARREN MOVES OFFICE

The Philadelphia office of the S. D. Warren Co., which is now managed by J. F. Howe since the retirement of P. K. Craig, moved on April 1 to 1528 Walnut street. Telephone — Pennypacker 5-7734.

CERTIFICATES OF NECESSITY

WASHINGTON, D. C. — More paperboard and pulp companies were numbered among those receiving approval of certificates of necessity covering projected expansion of facilities, in the latest list by the Defense Production Administration this week.

Included were: Pacific Paperboard Co., Longview, Wash., $27,272 approved as eligible; Clifton Paper Board Co., Inc., Whippany, N. J., $5,650,000; West Virginia Pulp & Paper Co., Mechanicsville, N. Y., $4,100,000; hardwood pulp; International Paper Co., Southern Kraft Div., Mobile, Ala.; $12,926,591 approved, for chemfibre board.

MARCH NEWSPRINT REPORT

NEWSPRINT ASSOCIATION OF CANADA, MONTREAL

I. PRODUCTION AND SHIPMENTS in short tons: 2,000 pounds		MARCH 1951	MARCH 1950	MARCH Percent Change	YEAR TO DATE 1951	YEAR TO DATE 1950	YEAR TO DATE Percent Change
1. Canadian Production: including Newfoundland	mo. and year to date	472,963	451,635	+ 4.7	1,351,079	1,267,893	+ 6.6
	per working day ..	17,582	16,789	+ 4.7	17,592	16,661	+ 5.6
	percent of capacity .	101.0	98.6		101.1	97.9	
2. Canadian Shipments: including Newfoundland	to United States .	409,154	387,707	+ 5.5	1,146,474	1,091,747	+ 5.0
	to Can. consumers .	32,042	29,861	+ 7.3	88,626	86,051	+ 3.0
	to Other Markets .	32,107	9,392	+244.0	62,585	29,009	+115.7
	total: all markets .	473,303	426,960	+ 10.9	1,297,679	1,206,807	+ 7.5
3. U. S. Production:..	mo. and year to date	94,015	80,571	+ 16.7	271,087	223,945	+ 21.1
4. U. S. Shipments:...	to U. S. consumers.	91,893	77,463	+ 18.6	268,241	221,833	+ 20.9
	to Other markets .	737	1,564	— 52.9	2,276	4,030	— 43.5
	total: all markets .	92,630	79,027	+ 17.2	270,517	225,863	+ 19.8
5. U. S. Imports from Europe:	*estimate; see Table 8	*14,500	13,847	+ 4.7	47,873	41,676	+ 14.9

II. CONSUMPTION AND STOCKS in short tons: 2,000 pounds		MARCH 1951	MARCH 1950	MARCH Percent Change	YEAR TO DATE 1951	YEAR TO DATE 1950	YEAR TO DATE Percent Change
6. U. S. Consumption:	estimated total	515,539	518,854	— .6	1,407,199	1,405,458	+ .1
7. North American Stocks:	U. S. Consumers .	647,864	558,605	+ 16.0	647,864	558,605	+ 16.0
	Canadian Mills ...	142,542	182,276	— 21.8	142,542	182,276	— 21.8
	U. S. Mills	8,811	8,896	— 1.0	8,811	8,896	— 1.0
	estimated total ...	799,217	749,777	+ 6.6	799,217	749,777	+ 6.6
8. A.N.P.A. Report:.... 525 Newspapers	Consumption	394,387	396,923	— .6	1,076,507	1,075,175	+ .1
	Stocks (tons)	445,201	404,801	+ 10.0	445,201	404,801	+ 10.0
	Stocks (days)	35	32		35	32	

PEOPLE

LIONEL M. GOLDBERG, heretofore a vice-president and comptroller, was elected assistant to the president as well as vice-president.

JOSEPH W. QUARTE, vice-president, was promoted to general sales manager of the company. He was formerly manager of the Long Island City Division.

SAMUEL D. BASS was elected comptroller. He joined National Container Corp. in 1948.

DANIEL BROCHIN was elected assistant comptroller in addition to continuing as assistant secretary.

JOHN W. HANES has been elected president and chairman of the board of directors of Ecusta Paper Corp., Pisgah Forest, N. C.

EDWARD O. DENZLER, formerly associated with Acushnet in New Bedford, Mass., and Frank Hill, formerly with Union Bag and Paper Corp., Hudson Falls, N. Y., have joined the staff of Texon, Inc.

WALLY BRYSE succeeded Arthur G. Fahrner, and is now first assistant superintendent of Mosinee Paper Mills Co. Mr. Bryse is continuing with Mosinee and has no plans for retiring at this time.

C. L. WYRICK has been elected vice-president and director of purchases of the Dillard Paper Co. with headquarters in Greensboro, N. C. Mr. Wyrick will be in charge of purchases for all of the nine divisions of the Dillard organization.

JEROME L. KIPNIS, formerly vice-president and assistant to the president, has been elected executive vice-president of National Container Corp.

HUGH M. NIVEN, for many years in the sales department and for several years sales manager of Canadian Nashua Paper Co., has been appointed general manager of the company to fill the vacancy caused by the death of E. G. R. Clarke. He will continue to serve as sales manager in addition to filling his new office.

GEORGE H. SULLIVAN has been named Eastern sales manager of the H. P. Smith Paper Co., Chicago. An eastern sales office of the company is being established in Baldwinsville, N.Y.

HAROLD H. HELLER, Appleton, Wis., who has been chief of the chemical section of Kimberly-Clark Corp. manufacturing department in Neenah, has been appointed to a position with the NPA in Washington, D. C. He has already assumed his duties there.

In his work with the NPA, Mr. Heller will be an assistant to G. J. Ticoulat, chief of the pulp and paper section of the agency. He will primarily be concerned with the control and procurement of chemicals for the pulp and paper industry.

CHEMICAL DEBARKING RESEARCH

A grant of $49,867 to The Research Foundation of State University of New York by the Chemical Debarking Research Project to investigate chemical treatment of living trees will give financial support for the first research problem to be undertaken by the newly organized Foundation.

The Chemical Debarking Research Project is a non-profit, unincorporated association sponsored by the following companies interested in the chemical debarking of wood: International Paper Co., New York City; Penobscot Chemical Fibre Co., Great Works, Me.; St. Croix Paper Co., Calais, Me.; American Smelting and Refining Co., Perth Amboy, N. J.; P. H. Glatfelter Co., Spring Grove, Pa.; Brown Co., Berlin, N. H.; Hollingsworth and Whitney Co., Boston, Mass.; Oxford Paper Co., Portland, Me.; Eastern Corp., Bangor, Me.; West Virginia Pulp and Paper Co., New York City.

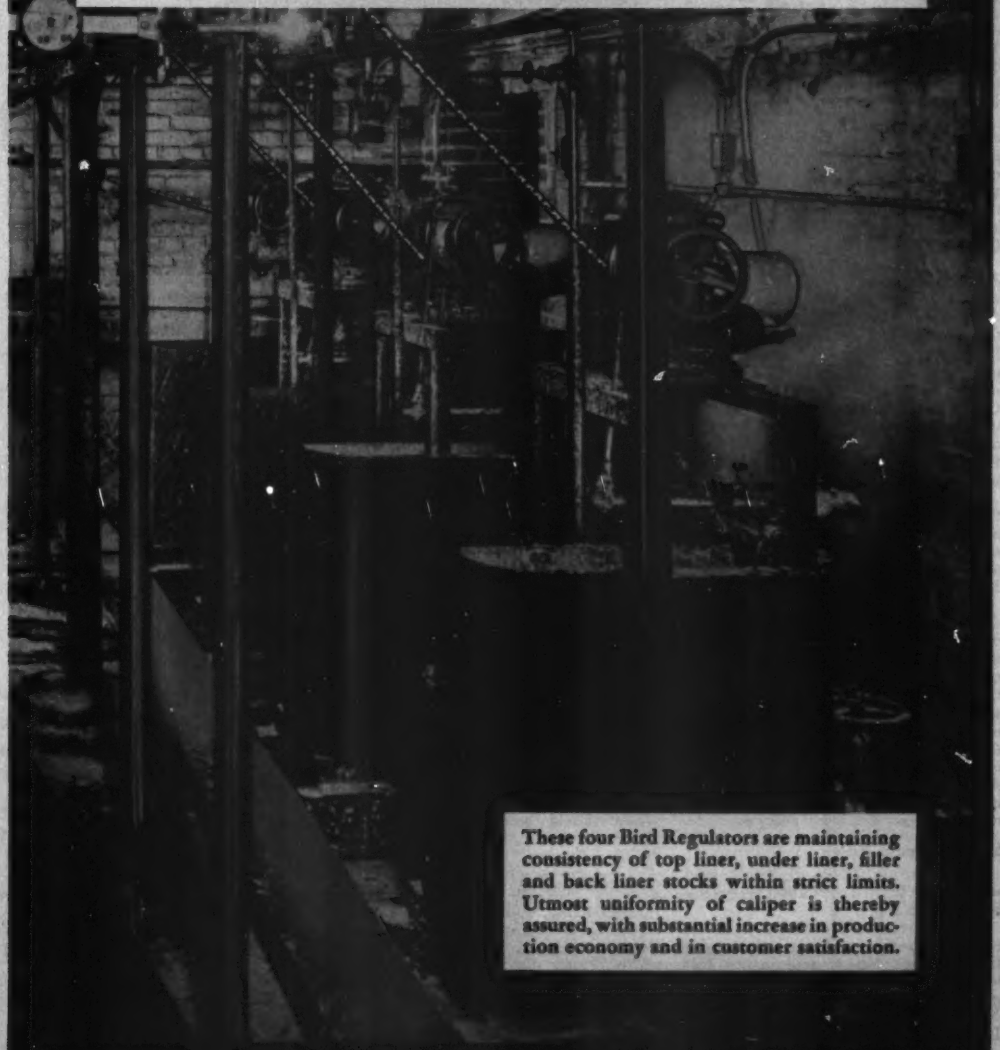
The Foundation will carry out the research program at State University College of Forestry at Syracuse. The College of Forestry will also contribute $14,063 in the form of services and supplies to the project.

According to the contract between the Chemical Debarking Research Project and State University: "The general purposes of this study are to ascertain the important factors affecting the loosening of the bark of living trees, how these factors affect the tree and the loosening of the bark, the physiological and chemical effects of toxic agents applied to the tree and the application of the data from these fundamental studies to the development of simple, efficient and controllable techniques in forest operations.

"Factors which may affect the loosening of the bark and which are to be studied include the type and concentration of the chemical, the method of application, the sap flow rate (conditioned in turn by air and soil temperatures, sunlight, leaf area, and so forth), sap composition, type of tree (species, age, vigor, and so forth) and site (moist or dry). The seasoning of the wood is affected by the functioning of the leaves. Therefore, an ideal seasoning agent should be one that kills the roots first and then the cambial cells, but not the leaves.

"These and other factors, which may become apparent in the course of the study, are to be studied. The results of these fundamental studies are to be applied to broader field studies so that advantage may be taken of the basic knowledge obtained for the development of simple, efficient and controllable operational techniques.

Hundreds of BIRD CONSISTENCY REGULATORS are on the job in mills the world over, going quietly and steadily about their business of keeping stock consistency at not more than 0.1% heavier or lighter than desired. You just set them and forget them.



These four Bird Regulators are maintaining consistency of top liner, under liner, filler and back liner stocks within strict limits. Utmost uniformity of caliper is thereby assured, with substantial increase in production economy and in customer satisfaction.

BIRD MACHINE COMPANY

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GOVERNMENT GOSPEL

Newsprint and Wood Pulp Essential

OTTAWA — The Canadian Government has declared that newsprint and wood pulp are essential materials under the legal authority of the Defense Production Act, at the same time the Government has appointed R. M. Fowler, president of the Pulp and Paper Assn. of Canada and formerly general counsel of the Wartime Prices and Trade Board of Canada during World War II, to be the new Director of a new Pulp and Paper Division of the Materials Branch of the Defense Production Department.

This does not necessarily mean that controls will be established or that there will be any domestic allocation of newsprint and wood pulp. In fact, no control order has been passed by the Government so far and quite possibly no controls will be set up in Canada for the present.

This action on the part of the Canadian Government ahead of the Washington conferences is being interpreted as implying that Canada's interest in the international conferences would be best served if the Canadian Government sent its representatives to Washington backed by such an Order-In-Council. If Canada decided to control newsprint and wood pulp as a result of these international talks, this country could go ahead quickly with the proper moves.

Mr. Fowler will represent Canada on the international committee on pulp and paper. He will be assisted in his new post by two officers of the Pulp and Paper Assn. of Canada, F. L. Mitchell and J. M. Smith.

Mr. Fowler has indicated that the Canadian Government's move does not mean domestic allocation of newsprint and wood pulp, nor does it establish control over such supplies. What the Canadian Government is doing, he said, was merely to set up standby machinery for possible regulation in the industry, if and when this policy is found to be necessary, adding that the fact this new department of government has been created might eliminate the need for such controls.

Limit Sulphuric Acid

WASHINGTON, D. C. — Sulfuric acid went under limited allocation this week by order of NPA.

The new order, Schedule 3 to M-45, requires specific authorization to deliver or use sulfuric acid in the following states only: Washington, Oregon, California, Arizona, New Mexico, Nevada, Utah, Colorado, Wyoming, Idaho and Montana.

However, purchasers in all states are required by the new order to certify to suppliers the end uses to which the chemical is to be put, and suppliers are required to report to NPA their customers, quantities ordered and end-uses certified, by the 10th of each month before the proposed delivery month.

Canadians May Use MRO Orders

WASHINGTON, D. C.—Canadian companies were given authority to use MRO orders in this country and certain types of distributors and importers assigned priority aid, by NPA.

The action, it was stated, recognizes that U. S. companies are turning to Canada for paper and pulp and many metals, while Canada requires mainly steel, machine tools and construction equipment from this side.

Ask Specialized Pricing Regulations

WASHINGTON, D. C. — Lake States pulpwood industry members have followed other elements in asking the OPS for a specialized pricing regulation for their industry in preference to remaining under the general price freeze.

Members of the Lake States Pulpwood Industry group took this action this week in their first meeting with OPS officials. They reviewed the old OPA Regulation No. 257, which established dollars and cents ceilings for pulpwood, as providing a logical pattern for a new regulation.

Committee members representing the pulpwood industry in Michigan, Minnesota and Wisconsin, reported they were paying prices under the GCPR, on an average of several dollars per cord above the old OPA ceilings, which it was recalled, ranged downward from $16.50 per cord, f.o.b. cars, for rough spruce, to $10 per cord for rough poplar and some hardwoods. The old regulation also set a differential of $3.50 per cord higher, for peeled wood, it was pointed out.

Also considered were price differentials as between delivery to mill yards, f.o.b. cars, at rail sidings and at roadside, but no specific recommendations were made on these points. The shortage of freight cars has pointed up cost of rehandling at sidings. A differential over millyard prices for long haul truck deliveries was suggested; also considered was what provision should be made for dealers' commissions, etc., with no recommendation following.

Committee members present included Robert L. Murwin, Badger Paper Mills, Inc.; H. R. Palmquist, Marathon Corp.; F. M. Hilden, Minnesota and Ontario Paper Co.; F. G. Kilp, Nekoosa-Edwards Paper Co.; C. R. Seaborne, Thilmany Pulp & Paper Co.; Edward Gorman, St. Regis Paper Co.; Edgar Habighorst, American Excelsior Corp.; E. B. Hurst, Consolidated Water Power & Paper Co.; W. H. Hildebrand, Mead Corp.; C. G. McLaren, National Container Corp. of Wisconsin; Chester Cone, Wausau Paper Mills Co.

Members, but not listed as present are: Gordon B. Bonfield, American Box Board Co.; George D. Carleton, Detroit Sulphite Pulp & Paper Co.; Frank Kelly, Northwest Paper Co.; and R. W. Lyons, Kimberly-Clark Corp.

Amend M-36

NPA has revised the amounts of paper which mills are required to set aside for filling essential Government orders. The revisions, which increased the set-aside for some types of paper and reduced it for others, were made to spread orders more equitably among paper mills after a study had been made of Government orders for paper scheduled for production in April, NPA said.

The action, an amendment to Order M-36, also added the Secretary of the Senate and the Clerk of the House of Representatives to the list of those permitted to procure paper from the Government reserve.

In the revised set-aside percentage list, newsprint and groundwood grades of paper are separated. The set-aside for newsprint remains at five percent. The groundwood set-aside is increased to 10 percent. This increase was necessitated by April Government requirements which exceeded the reserve, primarily because of increased needs for teletype and mimeograph paper, NPA said.

The set-aside for paper-machine coated papers was increased from five percent to 10 percent to release base stock and machine time to fill Government requirements for other kinds of paper and to equalize the percentage reserves between paper mills that make coated paper and those that manufacture uncoated book and fine papers.

The set-aside for book and fine papers was decreased from 15 to 10 percent except for the rag writing grades, which remained at 15 percent.

The large background of Government requirements which necessitated the 15 percent reserve for book and fine papers has to a large extent been dissipated, NPA said.

Under Order M-36 as amended, four categories replace the first three in the old table. In the table below, five categories are listed to show the increases and decreases in reserve percentages.

Grade	M-14-A code numbers	Reserve percent	Increase or decrease
Newsprint	1000	5	same
Groundwood paper, uncoated	1000-1190	10	+5
Paper-machine coated papers	1200-1220	10	+5
Book papers and fine papers (except rag writing papers)	1300-1390	10	—5
Rag writing papers	1410	15	same

Connoisseurs

one well versed in any subject; especially one who understands the details, techniques, or principles of a fine art.

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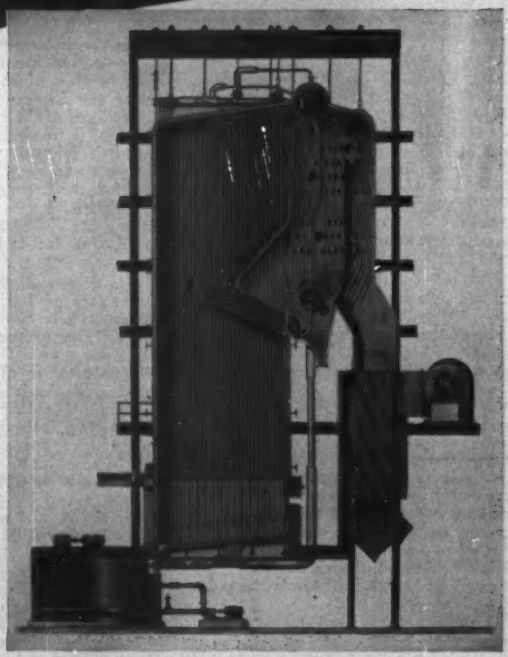
B&W technicians will be glad to discuss your problems of burning and recovery: in connection with black liquor . . . or with any of the sulphite-liquor processes. The Babcock & Wilcox Co., 85 Liberty St., New York 6, N. Y.



Typical B&W Black Liquor Recovery Unit.

P-762

From A Consumer's Viewpoint*

Charles Manning[1]

I was invited here as a paper mill man to talk to you gentlemen on the Cotton Rag situation from the consumer's viewpoint and I welcome the opportunity because I think you should know what we think and how we feel about the supply and price structure of this commodity.

As you know, the rag situation has been very bad for nearly a year from everyone's angle except those who produce this material and I believe that they have been quite pleased with what has happened. What the future holds for us is not definitely known, but it is likely that a large cotton crop will be raised this year and this should relieve the situation.

You all know what happened to the rag market during the period beginning in March, 1950 to January, 1951 when prices were frozen. For example, the price of Unbleached Muslins and White Shirt Cuttings was approximately11c March 1, 1950 and approximately 27c when frozen—an increase of 145 percent. Bleached Underwear Cutters were 11¾c March 1, 1950 and reached 35c—an increase of 198 percent. Since Korea, basic raw materials have advanced in price approximately 73 percent. domestic agricultural commodities 16 percent, manufactured goods 11 percent, wages about 10 percent and paper 20 to 25 percent.

All of this indicates the general trend—inflation, but one asks the question, "Why has the price of rags increased so tremendously? Those familiar with the situation will say that there are several things responsible, the small cotton crop of 1950 which resulted in a considerable tonnage of underwear Cutters, similar soft grades and practically all of the cotton threads being reworked into fibre for textile use and export demand. All of this created a serious shortage of paper making materials and the prices went up and up. The paper mills have been forced to compete, for their rags, with other buyers who normally take only limited quantities and this is the point I wish to stress.

I think I am voicing the opinion of other paper mills when I say that generally speaking, I feel the rag dealers have let us down rather badly. The offer of a higher price by someone from the breaking up trade or an export broker either got the rags, or the paper mill was forced to meet the competition. This established a new market price which became known almost immediately throughout the trade, but it lasted only a day or two until a higher price was offered by the others, a new market established and so it went, on and on.

There is one fact that cannot be overlooked, and that is, rags are a waste material resulting from other manufacturing processes and a higher price does not increase the supply. There is also another fact and that is, for the most part, the brokers who buy for export and the breaking up trade buy from the same dealers as do the paper mills. They do not go directly to the sources of supply. This means that the dealers are selling to the highest bidder regardless of whether or not they are their usual bread and butter customers—the paper mills.

It is my understanding that the rag dealers do not usually make an extra profit because of the higher price. I believe the increase is passed on to the producer of the rags when the next purchase is made and, therefore, I think it is fair to say that competition between the dealers is largely responsible for the tremendous increase in rag prices. That is the way it looks to the paper mills and frankly, some if not all of us feel rather badly about it.

Crane & Co. by whom I am employed, are now celebrating their 150th Anniversary of fine paper making and it is my opinion that the Crane family will still be making fine paper 100 years from now if this country of ours still exists and men are free and permitted to do business as they see fit. One hundred and fifty years ago there were no rag dealers and it was a difficult problem for a paper mill to get rags. The only source of supply for this material was the housewife and she was wooed by pleading advertisements, rhyme and song and was told it was her patriotic duty to save her discarded cotton clothing. As there was very little money available in those days and barter was the means of trading, the housewife took her carefully saved rags to the general store that sold all types of merchandise and received credit for them. Eventually she bought that new piece of cloth for a dress or something else she could not afford without the extra credit and the general store sold the rags to the nearest paper mill.

Then some years later, someone conceived the idea of collecting the rags direct from the homes and selling them as a commodity. He was the tin peddler who was still doing business when I was a small boy living on a farm. He traveled all over the rural communities of New England with a horse and wagon designed especially for the job. It was usually painted red and had numerous doors in the sides and back which, when opened, displayed the various tin pans, pots, kettles and other wares. Usually some of the heavier articles such as pails were hung on the outside and the whole contraption rattled and clattered as it traveled over the rough roads. This peddler still preferred to barter but he would pay cash if the good housewife insisted and I believe he was the first of the rag dealers.

From then on it became easier for the paper mills to buy their raw stock because he searched out all the material that was available and sold it to them. Soon, he became a very important factor in their business but eventually learned that grading was necessary and then the dealers we know today came into being. Later, when New Cotton Cuttings were produced, these dealers performed a real service by sorting out the objectionable materials and grading the various types to meet the requirements of the different mills. You all know what has happened in recent years; where formerly the paper mill was the only user of rags, we now have competition for this waste material by the plastics industry, the garnetters and the export trade. This coupled with other developments such as synthetic fibers replacing cotton for clothing and treated fabrics, both unsuitable for papermaking, has created a serious situation.

We have tried to meet this problem by using substitutes such as Cotton Threads, Comber, Card Strips, Sweeps, Linters and even raw cotton. As many of you know, the mills making fine papers even experimented in raising cotton for their own use and while it cannot be said that it has been a complete success, the venture has been encouraging, nevertheless, and would have been continued in 1950 had not our government restricted the cotton acreage planted.

The world must have paper or civilization will cease to exist. Did you ever stop to think what it would be like if we had none, no paper money, checks, letters, legal documents, books, newspapers and all the other things made of paper? Certain types must be made of cotton fibers and the mills will get the rags or suitable substitutes

(Continued on page 38)

* Presented at the N. A. W. M. D. Cotton Rag Council Meeting.

[1] Purchasing Agent, Crane & Co., Dalton, Mass.

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Maintenance—1 of Series

How Ohio Boxboard Maintains 195 Industrial Truck Batteries

J. E. Vaughan[1]

The Ohio Boxboard Co., Rittman, Ohio has a fleet of 65 industrial trucks. To keep these trucks operating continuously throughout three shifts, 195 batteries are carefully maintained. So complete are the record system, charging schedule, and maintenance procedures that six and more years life are frequently obtained from these batteries.

Charging facilities are divided into two sections. The larger section *(Figure 1)* cares for the batteries which power large platform and fork trucks. Along the wall are single circuit charges — i.e., chargers which charge one battery at a time. Each instrument charges the batteries used in a specific truck. Each truck is assigned three batteries, one to be used on each shift. While one battery is being charged, another is in service, and another is resting. When a truck comes in at the end of a shift, its battery is put on charge, the rested battery is installed in the truck, and the battery which has been on charge is allowed to rest. This rest period allows the battery to cool after charging and insures against placing of heated batteries in service. (Battery temperature tends to rise several degrees during changing.) The chargers situated against the wall are rectifiers and charge by the two rate method. That is, they charge batteries at a high rate when first put on charge but automatically switch to a low "finishing rate" when the battery is about 80 percent charged. The finishing charge is automatically terminated at the end of three hours.

The batteries in the foreground are charged by a motor generator set. One motor generator charges 10 different batteries. Each battery has a separate control panel so that the charge to each can be properly controlled.

Batteries in this section of the charging room are removed from trucks by a hoist, lowered onto skids, and distributed to their respective charging stations by another truck.

Figure 2 illustrates a homemade cart which Ohio Boxboard finds useful in caring for its unusually large number of batteries. The tank on the top of the rack contains distilled water. When water is to be added to a battery, the cart is rolled to the battery to be serviced and water is administered. This eliminates both the lifting of heavy carboys and extensive monorail systems. Incidentally, since so many batteries must be maintained, distilled water is prepared in the plant

[1] Supervisor Field Eng., Gould-National Batteries, Inc., Trenton, N. J.

Figure 1

Figure 2

OHIO BOXBOARD CO. ELECTRICAL DEPT.

BATTERY RECORD

NO	TIME	DATE	SPEC. GRAV.	HOURS SERVICE	ON CHARGE	SPEC. GRAV.	REMARKS

Figure 3

Figure 7

for this purpose. Shelves on the rack can be used for carrying tools.

When a battery is placed on charge, the record form indicated in *Figure 3* is filled in. Each battery is numbered and the record forms become case histories and indicate when batteries are being improperly charged, misused or wearing out. A master card as shown in *Figure 4* is kept in a master file and tells at a glance the length of service given by a battery and any major battery repairs required.

Figure 5 shows a new charging panel which controls the charging of 8 batteries. This panel automatically terminates the charge when the battery is fully charged and does not require manual adjustment to determine the duration of the finishing charge. Note in *Figure 5* that batteries are lifted by means of a "spreader-bar." This bar is used to prevent bending which would tend to occur if a simple sling was used.

Figure 6 shows the charging facilities used to care for "walkie" truck-batteries. The reason this room is

BATTERY RECORD

O. B. No. DATE IN SERVICE

MAKE SERIAL No.

TYPE AMP. HRS.

No. OF CELLS NEW OR REBUILT

DIMENSION

HEIGHT WIDTH LENGTH

REMARKS

Figure 4

separate from the main battery room is to save time walking the "walkies" to the main charging room and back. Some of the "walkies" are utilized some distance from the main charging room and would require as much as a half-hour each shift to go to and from the main room.

The hood enclosing the chargers is there to protect them from dusting of a spray powder used on nearby printing presses to prevent offsetting of the ink on the surface of one sheet to the back of the next.

The "walkie" charge room is equipped with an electric hoist mounted on an I-beam. The hoist lifts the battery from the truck and lowers it to the charging platform. Note that here again a homemade "water cart", is used. This time a carboy replaces the metal tank.

Figure 7 shows a fork truck performing a typical task. Here it is tiering boxboards in temporary storage prior to printing. Formerly, Ohio Boxboard merely produced the carton material. Now, however, it prints them (letterpress and gravure) as well. These extra facilities, of course, require additional handling and it is this extra handling that made Ohio Boxboard's fleet grow to 65 trucks. Each truck, incidentally is assigned to a specific department. This provides for greater control of handling operations.

It is to keep its trucks operating at all times and to eliminate down time, as well as to prolong battery life, that Ohio Boxboard has installed such complete battery facilities.

Figure 5

Figure 6

Effect of Molding Temperature on the Strength And Dimensional Stability of Hardboards from Fiberized Water-Soaked Douglas-Fir Chips*

SIDNEY L. SCHWARTZ[1] and P. K. BAIRD[2]

The experiments reported herein demonstrate that Douglas-fir hardboard prepared from pulps produced by fiberizing water-soaked chips can be dried and heat-treated in one short operation in a hot press at temperatures in excess of 200° C. Hardboard so produced has a higher modulus of rupture and a better dimensional stability than that produced at lower temperatures.

Introduction

The manufacture of hardboard from wood fiber usually involves steam-cooking and fiberizing wood chips, sizing the stock, and forming pulp sheets and hot-pressing them to hardboard. These boards can be improved in flexural strength and dimensional stability by impregnation with drying oils and by heat treatment (tempering), or by heat treatment alone (8). In some instances synthetic resins are incorporated in the pulp stock to bring about these improvements (1, 2).

Heat treatment of hardboard has been pioneered in the Scandinavian countries and is now general practice in Sweden (7, 11). This treatment probably stems from the observation that the effect of heat upon the hygroscopicity of wood is permanent (15, 17). The operation is usually conducted at temperatures below 160° C. because of the danger of spontaneous combustion in the kiln (11). In practice, the usual range is from 120° to 140° C., and the time consumed is from 4 to 5 hours. The treatment makes the boards stronger but more brittle (7).

The exothermic decomposition of wood has been found to be appreciable at temperatures above 270° C. (6, 16). This report presents the results of a study of the drying and heat treating of hardboards in one operation in a hot press somewhat below that temperature, that is, in the range of 180° to 240° C.

Material

The pulp stock used in this study was prepared from the incipiently decayed heartwood of an old-growth Douglas-fir log (shipment 2655, lot 2), but chemical analysis and sulfate-pulping experiments on this wood indicated it had but little, if any, degradation (10). This log was representative of wood that had been infected by a fungus, *Fomes pini* (white pocket rot), and that is not, therefore, generally suitable for lumber manufacture. Profitable utilization of such wood is desirable, since extensive forest stands of this type exist in Oregon.

The chips were water-soaked and fiberized in a 36-inch double-rotating disk mill under conditions that favored brushing more than cutting. The energy consumed in milling was about 44 horsepower-days per ton of wood (moisture-free basis).

The drainage characteristic of the stock was determined in a Williams precision-model freeness tester. An 8.6-gram sample of stock, moisture-free basis, was used to stimulate board-making procedure (5), and the test was conducted at a temperature of 20° ± 1° C. The observed freeness value of 146 seconds is approximately the upper limit permissible for conventional board-machine operation (5), and is, moreover, undoubtedly greatly in excess of that of stocks usually employed in hardboard plants. The pulp fractionation was conducted in a multiple-diaphragm plate screen (Appleton selective screen) (13). The weight of the test sheets on the basis of a ream of 500 24- by 40-inch sheets was 340 pounds. The bursting and tensile strengths were corrected to a sheet density of 0.3 gram per cubic centimeter on the basis that these strengths vary directly with density (3). The screen analysis of the pulp and the strengths of test sheets were:

Screen analysis:	Percent
Retained on 24-mesh screen.	31.3
Retained between 24- and 42-mesh screen	18.0
Retained between 42- and 80-mesh screen	12.3
Retained between 80- and 150-mesh screen	14.3
Passing through 150-mesh screen	24.1
Bursting strength Pts./lb./ream	0.063
Tensile strength....Lb./sq. in.	280

Hardboard Preparation

Hardboards, nominally ⅛ inch in thickness and 8½ inches in diameter, were prepared by hot-pressing wet, unsized pulp mats. The pulp mats were

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* Presented at the Fourth Annual National Meeting of the Forest Prducts Research Society.

[1] Chemical Engineer, [2] Chemist, Forest Products Laboratory Forest Service, U. S. Dept. of Agriculture, maintained at Madison, Wis., in cooperation with the University of Wisconsin.

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The illustration above shows a modern, efficient, Smidth Rotary Kiln for reburning lime sludge at the plant of the West Virginia Pulp & Paper Co., Charleston, South Carolina.

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formed in an 8.5-inch-diameter pressure mold described previously (14). A calculated amount of pulp and a portion of the water were mixed with a high-speed propeller-type stirrer. The stock was charged to the mold, diluted to 1 percent consistency, and, before the mat was formed, was agitated with compressed air. The mats were cold-pressed at 750 pounds per square inch before they were hot-pressed.

Each prepressed mat was placed on a 16-mesh galvanized-wire screen between copper cauls and hot-pressed in a 125-ton press that had 14- by 14-inch platens. The press was heated by means of a Dowtherm unit to attain the high temperature used. A thermocouple, inserted in the mat about 1 inch from the edge, was used to determine the temperature of the pressing. The wire and the top caul were lubricated with montan wax to prevent the board from sticking to them. In all cases a 1-minute breathing period was included in the pressing schedule, during which interval the pressure was dropped 100 pounds per square inch. In most instances this interval occurred between the second and third pressing minutes. In the 180° C. series, the breathing period was between the third and fourth minute.

Twelve groups, of four hardboards each, were made for the time-temperature series. The boards were pressed at 750 pounds per square inch at maximum temperatures of 180°, 200°, 220°, and 240° C. for periods of 5, 25, and 75 minutes. The approximate time to maximum temperature varied from 5 minutes at the highest temperature schedule to 8 minutes at the lowest temperature schedule.

Hardboard Testing

The boards were tested for flexural properties, toughness, dimensional stability, and water absorption. Each board furnished two static-bending specimens, 6 by 1½ inches, cut from the center portion; two toughness specimens, 6 by ½ inches; and two dimensional-stability specimens, 3 by 1 inches. One of the static-bending specimens from each board was subsequently cut to 3 by 1 inches and used for the water-absorption test.

Static Bending

The specimens were tested in static bending according to the Forest Products Laboratory procedure (4).

The modulus-of-rupture values were adjusted to a specific gravity of 1.0 on the basis of varying at the square of the density (18). The modulus-of-elasticity values were also adjusted to a specific gravity of 1.0. It was assumed that the stiffness of the boards varied as the 1.5 power of the specific gravity on the basis of the variations

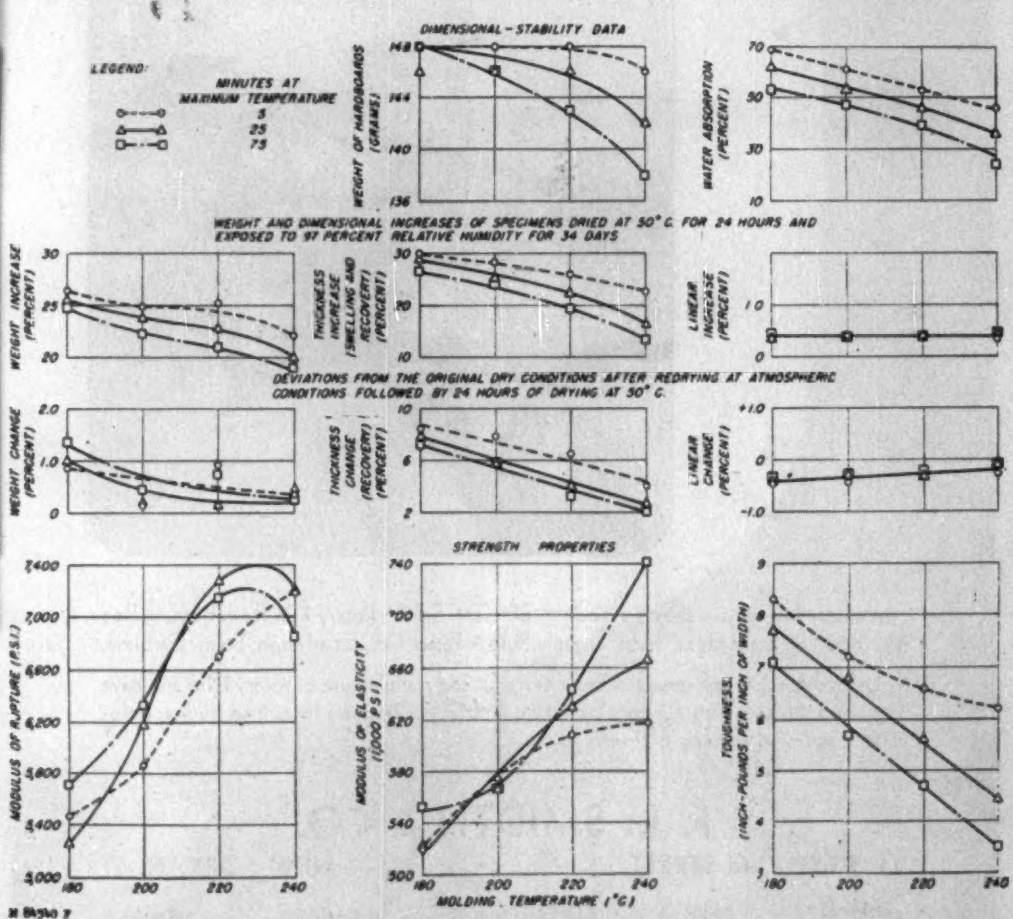
DIMENSIONAL-STABILITY DATA
LEGEND:
MINUTES AT MAXIMUM TEMPERATURE
5
25
75
WEIGHT OF HARDBOARDS (GRAMS)
WATER ABSORPTION (PERCENT)
WEIGHT AND DIMENSIONAL INCREASES OF SPECIMENS DRIED AT 50° C. FOR 24 HOURS AND EXPOSED TO 97 PERCENT RELATIVE HUMIDITY FOR 34 DAYS
WEIGHT INCREASE (PERCENT)
THICKNESS INCREASE (SWELLING AND RECOVERY) (PERCENT)
LINEAR INCREASE (PERCENT)
DEVIATIONS FROM THE ORIGINAL DRY CONDITIONS AFTER REDRYING AT ATMOSPHERIC CONDITIONS FOLLOWED BY 24 HOURS OF DRYING AT 50° C.
WEIGHT CHANGE (PERCENT)
THICKNESS CHANGE (RECOVERY) (PERCENT)
LINEAR CHANGE (PERCENT)
STRENGTH PROPERTIES
MODULUS OF RUPTURE (P.S.I.)
MODULUS OF ELASTICITY (1,000 P.S.I.)
TOUGHNESS (INCH-POUNDS PER INCH OF WIDTH)
MOLDING TEMPERATURE (°C.)

Figure 1—The effect of molding temperature on the strength, dimensional stability, water absorption, and weight of hardboards made from fiberized water-soaked Douglas-fir chips.

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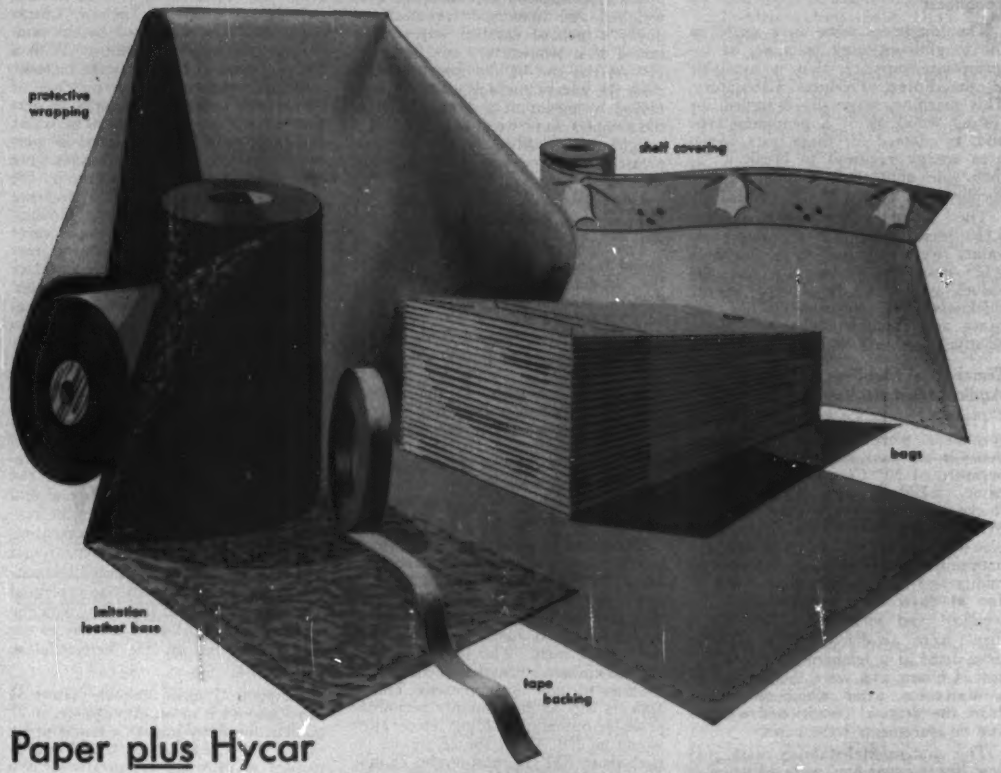

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observed in wood (9) and in fiberboards (18). The specific gravity of the specimens varied from 0.96 to 1.09, and the averaged values of the groups varied from 1.00 to 1.06.

Toughness

The toughness tests were made on the toughness-testing machine, of intermediate capacity, that is available at the Forest Products Laboratory. This machine, originally designed for testing wood, is of a pendulum type and, as adapted for these tests, measures energy required to break a ½-inch-wide unnotched nominal ¼-inch specimen on a span of 2½ inches.

The boards were approximately 0.150 inch thick, and the toughness values were adjusted to a thickness 0.125 upon the assumption that the values varied as the square of the thickness. The adjustment did not cause any significant changes in the relative toughness values.

Dimensional Stability Against Moisture Vapor

For the dimensional-stability test, specimens were conditioned for 24 hours in an oven maintained at a temperature of 50° C., cooled in a desiccator, weighed, and measured for thickness and length at marked points to the nearest 0.001 inch. The samples were then placed in an atmosphere maintained at 97 percent relative humidity and at a temperature of 80° F. for 34 days, after which they were weighed and measured. The specimens were air-dried and were then oven-dried at a temperature of 50° C. for 24 hours, and were then cooled in a desiccator, after which deviations from the original conditioned weights and measurements were noted.

The dimensional-stability data, except linear expansion, were adjusted to a specific gravity of 1.0. Ogland (12) found that swelling and recovery increased with density but that linear expansion was not affected. It was assumed that for small variations in density the dimensional-stability values varied directly with the density. The average specific gravity of the various groups of specimens ranged from 1.01 to 1.03.

Water Absorption

Water-absorption test samples were weighed and immersed for 24 hours under 1 inch of distilled water maintained at a temperature of 70° ± 5° F. At the end of the immersion period, the excess surface water was removed by means of a damp cloth and the samples were weighed again. The weight of absorbed water was expressed in percentage of the initial weight.

Discussion of Results

The temperature of molding was found to have a pronounced effect on the properties of hardboards. The flexural properties of the boards were substantially increased by increasing the molding temperature from 180° to 240° C., while the toughness was markedly reduced. Increasing the molding temperature increased the dimensional stability in thickness (swelling and recovery) and decreased the water absorption of the boards. These changes were accompanied by a decrease in weight and darkening of the dried boards. The data are graphically presented in *Figure. 1.*

The modulus of rupture of the hardboards plotted against maximum temperatures for molding periods of 5, 25, and 75 minutes gave a series of curves that show or indicate a maximum flexural strength of 7,200 to 7,400 pounds per square inch. The temperature of the maximum strengths decreased as the time of molding increased. Thus it appears that at the 5-minute period the probable optimum molding temperature would be 250° C., at the 25-minute period about 230° C., and at the 75-minute period about 227° C.

Molding temperatures higher than 200° C. greatly stiffened and embrittled the boards, as indicated by the increase in modulus of elasticity and the decrease in toughness. This effect was not so pronounced, however, at the 5-minute period as at the longer heating period.

The percentage changes in the properties of the hardboards brought about by raising the molding temperature from 180° to 240° C. for the several periods are given in *Table 1.* Linear expansion was unaffected by the temperature or time of molding. With a molding time of 5 minutes the increase in temperature caused an increase of 32 percent in flexural strength, 19 percent in stiffness, 33 percent in water resistance, and a decrease of 27 percent in thickness. These changes were accompanied by a slight loss in the weight of the boards and a decrease of 25 percent in toughness. Molding for periods at maximum temperatures of 25 and 75 minutes produced further improvements in stiffness, water resistance, and thickness stability, but little or no improvement in flexural strength and an additional decrease in toughness.

Ogland (11) found that hardboard heated under molten metal decreased in flexural strength, while hardboard heated in air under comparable conditions increased 20 to 30 percent. This difference can be attributed to the retention of pyroligneous acids in the board by the heat of molten metal and the subsequent degradation of the material. The effects of heat treating on hardboard in a press were found to be similar to those produced by heating in air. Ogland (11) has presented data to indicate that the changes in the properties of hardboard are due to the action of heat on the hemicellulose component.

Incipient fungus growth after 34 days' exposure in an atmosphere at 97 percent humidity and at a temperature of 80° F. was exhibited by all boards molded at 240° C., irrespective of the length of the molding period. Boards molded at temperatures of 180°, 200°, and 220° C. were unaffected. Whether the observation has significance or not is not known. However, since heat treating of wood has been advocated as a means of improving its decay re-

TABLE 1

THE EFFECTS OF INCREASING MOLDING TEMPERATURE FROM 180° TO 240° C. ON THE PROPERTIES OF UNSIZED HARDBOARDS FROM FIBERIZED WATER-SOAKED DOUGLAS-FIR CHIPS

	Change in properties on increasing the molding temperature from 180° to 240° C.										
	Strength				Dimensional change						
					Conditioned state[2]			Redried state[3]			
Time at maximum temperature	Modulus of rupture	Modulus of elasticity	FPL toughness	water absorption	Length	Thickness (swelling and recovery)	Weight	Length	Thickness (recovery)	Weight	Weight loss[1]
Minutes	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
5	+32	+19	—25	—33	0	—27	—16	—25	—53	—67	1.4
25	+37	+28	—43	—42	0	—42	—22	—75	—66	—50	4.1
75	+20	+34	—49	—55	0	—50	—24	—67	—71	—79	6.8

[1] Weight of hardboards produced at 180° C. taken as 148 grams in all cases.
[2] Specimens dried originally at 50° C. for 24 hours. Conditioned at 97 percent humidity and 80° F. for 34 days.
[3] Deviations from the original dry conditions after redrying at atmospheric conditions followed by 24 hours of drying at 50° C.

sistance (16), this converse observation is recorded.

Summary and Conclusions

Strong hardboard was made from stock prepared by fiberizing water-soaked Douglas-fir chips. The hardboard was made without resorting to steam-cooking, the incorporation of synthetic resins, or prolonged heat treatment of the board. The drying and heat-treating were achieved in one short operation in a hot press by means of high molding temperatures. Since the temperature of exothermic decomposition is not appreciable below 270° C., it appears that molding temperatures in excess of 240° C. could be used. Under such conditions the molding could be less than 10 minutes.

The increases in flexural strength and in stability in thickness (swelling and recovery) were comparable to those obtained in the commercial 4- to 5-hour kiln-drying procedure. The flexural strength increase was, however, considerably below that secured by means of tempering. Raising the maximum temperature from 180° to 240° C. for a 5-minute molding period increased the flexural strength 32 percent; stiffness, 19 percent; water resistance, 33 percent; and decreased swelling and recovery 27 percent upon humidification. Molding for periods at maximum temperatures of 25 and 75 minutes gave further improvements in stiffness, water resistance, and thickness stability, but little or no improvement in flexural strength and an additional decrease in toughness. Linear expansion was unaffected by the temperature or time of molding.

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Patent Abstracts

● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information are included.***

U.S. 2,540,565—Double-Wall Paper Container. Cesare Barbieri, New York, N. Y., assignor to Dixie Cup Company, Chicago, Ill. Filed March 17, 1944—Issued February 6, 1951.

A flat-bottom paper cup having a double-ply wall, including a flanged bottom member, and a body part comprising a composite blank made up of a pair of initially separate pieces secured together before forming and coinciding at the lower edges with a side margin of one extending beyond the other and the opposite side and upper margins of the other extending beyond the first, the lower margins of both pieces being turned into a bottom fold around the flange on the bottom member.

U.S. 2,540,595 — Carton. George P. Props, Fort Wayne, Ind., assignor to Fort Wayne Corrugated Paper Company, Fort Wayne, Ind. Filed May 22, 1948—Issued Feb. 6, 1951.

A carton comprising separable telescoping inner and outer receptacles of substantially the same depth each open at one end and each having integral flaps providing a closure for the other end, said outer receptacle having flaps at its open end inwardly folding to lie along inner faces thereof for reinforcing said open end and said outer receptacle having in opposite side walls spaced from said open end elongated hand hole slots and associated deflectable closures therefor, said closures being hinged along a line adjacent the free edges of said flaps when folded as aforesaid, said inner receptacle having similar hand hole slots in opposite side walls similarly spaced from its closed end, whereupon when said receptacles are telescopically assembled by fitting the open end of said inner receptacle into the open end of said outer receptacle until the respective open ends abut the closures for the other ends, said inwardly folded flaps frictionally engage the outer side walls of said inner receptacle to retain said receptacles in assembled relationship and said hand hole slots are in registry with said slot closures on the outer receptacle deflectable inwardly to underlie the edges of said reinforcing flaps and also the edges of the hand hole slots in said inner receptacle to provide a reinforced gripping surface for fingers inserted through said registering slots.

U.S. 2,540,712 — Container Bottom Structure. John H. Cassidy, Sandusky, Ohio, and Reed M. Grunden, Erie, Pa., assignors to The Hinde & Dauch Company, Sandusky, Ohio. Filed May 18, 1943—Issued Feb. 6, 1951.

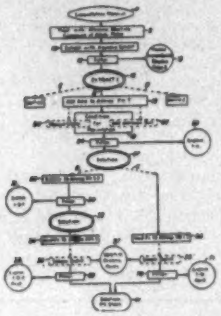
In a container having side and end walls, a bottom structure comprising a pair of supporting flaps hinged to the bottom edge of each end wall, the flaps of each pair being spaced apart to provide a narrow slot between them, the flaps of the two pairs and the two slots being in longitudinal alinement, a foldable bottom section hinged to the bottom edge of each side wall, each of said sections having a body portion beneath alined supporting flaps, a fold portion in said slots and a flap overlying the body portion and the supporting flaps thereon, the fold portions of the two bottom sections abutting and having registering openings spaced apart and from the ends thereof, and flat transversely disposed locking and stiffening keys extending through said registering openings and confined between said bottom member flaps and said supporting flaps.

U.S. 2,540,874—Felt for Papermaking Machines. Saint Julian Geddings, Columbia, S. C. Filed May 25, 1949—Issued Feb. 6, 1951.

A fabric comprising groups of fillings, each group comprising substantially aligned outer filling picks and an intermediate filling pick, the outer filling picks forming first and second longitudinal groups of filling picks, the intermediate filling picks forming an intermediate longitudinal group of filling picks, a first set of heat resisting warps engaging over the next alternate filling picks of the first longitudinal group and engaging beneath the remaining filling picks of the same longitudinal group, a second set of heat resisting warps arranged next to the warps in the first set and passed over the next alternate filling picks of the first outer longitudinal group, the last named filling picks having the first set of warps engaging beneath them, said second set of warps engaging beneath the next alternate filling picks in the intermediate longitudinal group, the last named filling picks being in the same groups with the filling picks of the first outer longitudinal group having the first set of warps engaging over them, a third set of strong warps arranged next to the warps in the second set and engaging over the next alternate filling picks in the intermediate longitudinal group, the last named filling picks having the second set of warps engaging beneath them, the third set of warps engaging beneath the remaining filling picks in the intermediate longitudinal group, a fourth set of readily absorbent warps arranged next to the warps in the third set and engaging over the next alternate filling picks in the second outer longitudinal group, the last named filling picks being in the same groups with the filling picks of the intermediate longitudinal group having the second set of warps engaging beneath them, the fourth set of warps engaging beneath the remaining filling picks in the second outer longitudinal group, and a fifth set of readily absorbent warps

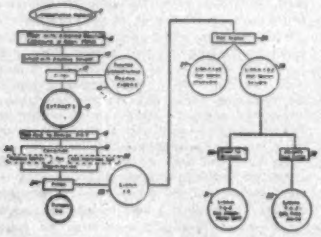
engaging beneath the next alternate filling picks of the second outer longitudinal group, the last named filling picks having the fourth set of warps engaging over them, the fifth set of warps engaging over the next alternate filling picks of the intermediate longitudinal group, the last named filling picks having the third set of warps engaging beneath them.

U.S. 2,541,058—Processing of Lignocellulose Materials. Clark C. Heritage, Cloquet, Minn., and William G. Van Beckum, Longview, Wash., assignors to Wood Conversion Company, Cloquet, Minn. Filed June 16, 1948—Issued February 13, 1951.



The process of treating comminuted lignocellulose raw material to form a fibrous product and a chemical product therefrom, which comprises the steps of reacting at atmospheric pressure and at a temperature in the range from room temperature to about 140° C. the lignocellulose material with an alkaline reacting compound of an alkali metal in the presence of water, extracting with an essentially aqueous solvent the reaction products soluble therein, separating the solution thus obtained to leave as one product the extracted fibrous residue, adjusting the pH of the aqueous solution to a value of from about 7 to about 1.5, conditioning the said aqueous solution by establishing a substantial quantity of salt concentration whereby a lignin material is precipitated, and separating said lignin material as a second product.

U.S. 2,541,059 — Process for Producing Lignin Products. Clark C. Heritage, Cloquet, Minn., and William G. Van Beckum, Longview, Wash., assignors to Weyerhaeuser Timber Company, Longview, Wash. Filed June 17, 1948—Issued February 13, 1951.



A process for obtaining lignin from lignocellulose material which comprises treating said material with an aqueous solution of an alkali metal carbonate at a temperature of from about normal room temperature to about the boiling point of said solution at atmospheric pressure and in concentration sufficient to provide not substantially more than about 15 parts of said alkali per 100 parts of dry lignocellulose material for dissolving from the material lignin and polysaccharides-other-than-cellulose and leaving a lignocellulosic residue, separating the resulting aqueous alkaline treating solution from the said lignocellulosic residue, substantially neutralizing said alkaline solution and conditioning the said aqueous solution by establishing a salt concentration therein in an amount sufficient to cause precipitation of a substantial amount of its lignin content, separating the thus precipitated lignin from the residual solution, and treating the said lignin with an aqueous solvent for extracting components dissolved by said solvent.

Can. 471,329 — Cartons and Carton Blanks. Arthur J. Weiss, West Englewood, New Jersey, U.S.A., assignor to Gair Company of Canada Limited, Toronto, Ontario, Canada. Filed Dec. 22, 1947—Issued February 6, 1951.

A carton blank comprising four side panels, an end flap adjoining each of the side panels and of a width substantially coextensive with its respective side panel, two of the end flaps being foldable inwardly to form inner end flaps and the remaining two end flaps being foldable inwardly outside of the folded inner end flaps to form outer end flaps, a glue lap at one edge of the blank, said lap extending from a side panel which adjoins an inner end flap, said glue lap extending beyond the end of its adjoining panel for attachment to an outer end flap, and the side of the inner end flap adjacent the extension of the glue lap having a recess adjacent the glue lap extension, said recess having an area at least equal to that of the glue lap extension and shaped as to receive said extension when the end flaps are closed, said recess being spaced from the edge of the adjoining side panel.

Can. 471,411 — Cartons. Robert J. Hickin, Rittman, Ohio, U.S.A., assignor to Somerville, Limited, London, Ontario, Canada. Filed April 26, 1950—Issued February 6, 1951.

In corner locking means for the side wall members of paperboard cartons, a flap having a free edge and hinged to one of said side wall members opposite said free edge, said flap being foldable into juxtaposition to the other side wall member and provided at its free edge with an off-standing locking tongue, the other side wall member provided with slit means for locking engagement with said tongue, said slit means including a slit extending substantially vertically of said side wall member and terminating within the height of the wall member and of a length sufficient to accommodate the tongue, and a pair of slits in said wall member extending at an angle to said vertical slit and joining said vertical slit at its upper and lower ends, respectively, the slit at said upper end extending laterally of said vertical slit in two directions and the slit at the lower end extending laterally of said vertical slit in only one direction, the portion of the wall member lying within and bordered by said vertical and transverse slits being readily distortable to accommodate said tongue.

Can. 471,506—Apparatus for Treating Wood Pulp and the Like. James Tucker Coghill, Rochester, New York, U.S.A., assignor to Consolidated Machine Tool Corporation, Rochester, New York, U.S.A. Filed August 19, 1948—Issued February 13, 1951.

In a machine for treating fibrous material, a drainage surface through which excess liquid may drain from the material, a working surface, means for sweeping thickened material from said drainage surface onto the working surface, and means cooperating with the working surface to apply pressure to the thickened material and cause said material to roll traversingly over the working surface in different directions under pressure.

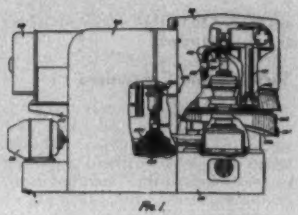


Fig. 1.

In a machine for treating fibrous material, a pair of opposed working surfaces arranged to form therebetween a working space, an inlet zone at one boundary of the working space and a discharge zone at another boundary of the working space, the contours of said working surfaces being such that the working space is narrowed between the inlet and discharge zones, means for supplying an aqueous slurry of stock to the inlet zone, means for effecting relative movement between the working surfaces in different tangential directions to roll the material traversingly between and over the surfaces, and means for holding the working surfaces in operative relation to compress the material between the surfaces during the rolling movement.

In a machine for treating fibrous material, a pair of opposed working surfaces arranged to form therebetween a working space, an inlet zone at one boundary of the working space and a discharge zone at another boundary of the working space, means for continuously feeding the material, which is to be treated, to said inlet zone, means for imparting relative movement between said surfaces in different tangential directions, fluid pressure operated means for urging one of the surfaces toward the other under a predetermined pressure, and means for periodically rendering said last-named means inoperative and for thereupon moving the surfaces toward and from one another.

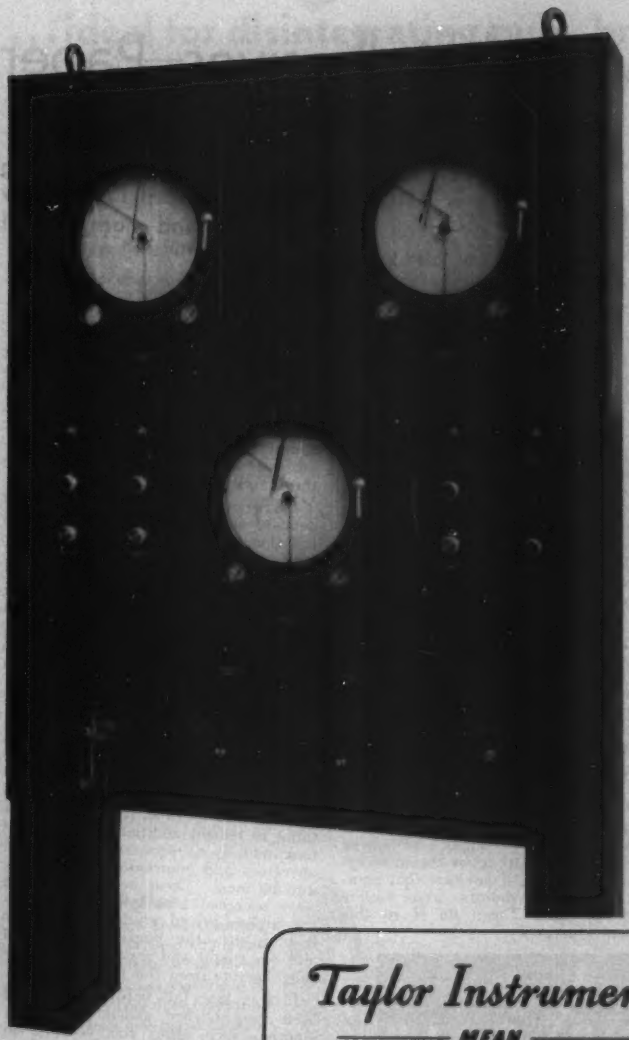
Can. 471,536 — Cartons. George E. Wauda, Neenah, Wisconsin, U.S.A., assignor to Marathon Corporation, Rothschild, Wisconsin, U.S.A. Filed March 25, 1950—Issued February 13, 1951.

A collapsible carton formed from a single blank suitably cut, scored and glued to provide a foldable tray having front, rear and side walls, a foldable cover hinged to said rear wall, said front wall having an externally folded locking flap hinged at the upper edge thereof, said cover comprising a top wall, side walls and a front wall, said cover side walls each having a flap extension, said flap extensions each being cut to provide re-entrant recesses in said flap extensions facing the top wall of said cover and having a cut edge opposed to the longitudinal edge of said locking flap, said flap extensions being overlapped and adhered by an adhesive area to inner portion of said cover front wall, said adhesive being spaced inwardly from said cut edge whereby pocket portions are provided in conjunction with the unadhered underlying cover front wall for receiving portions of said locking flap to thereby retain said cover in releasably locked condition.

Can. 471,538 — Sulfurized Tall Oil. Gifford D. Davis, South Orange, New Jersey, U.S.A., and Edwin J. Barth, East Orange, New Jersey, U.S.A., assignors to National Oil Products Company, Harrison, New Jersey, U.S.A. Filed March 23, 1944—Issued February 13, 1951.

As a new composition of matter, sulfurized glyceryl esters of tall oil, containing from about

CENTRALIZED Taylor Control cuts stock handling costs



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Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

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MEAN
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2% to about 20% of sulfur in chemical combination therewith.

Process which comprises reacting the glyceryl esters of tall oil with elementary sulfur at temperatures from about 300° to about 380° F. for from about 4 to about 10 hours.

Process according to claim 3 in which the sulfurized esters are subsequently blown with air.

Can. 471,539—Manufacture of Silicate-Coated Papers. William Stericker, Drexel Hill, Pennsylvania, U.S.A., assignor, by mesne assignments, to National Silicates Limited, Toronto, Ontario, Canada. Filed Jan. 23, 1947—Issued February 13, 1951.

A process of rendering low-cost paper and paper board oil-and-grease resistant with simultaneous bleaching of the paper which comprises superficially coating a paper web from which at least the bulk of the water has been removed and which contains components normally subject to staining by alkali, by applying thereto a silicate coating solution having a gravity within the range of about 10° to 35° Bé. and containing an alkali metal silicate, having a weight ratio of alkali metal oxide to SiO_2 within the range of from about 1:1.6 to 1:3, and a colorless oxidizing-bleaching agent of the type which bleaches by liberating a nascent gas, selected from the class consisting of chlorine and oxygen, in amount substantially equivalent, with respect to bleachability, to about 0.25 to 5.0 per cent of hydrogen peroxide, whereby the color and brightness of the coated web is substantially improved as compared with webs coated with the same silicate solution in the absence of said bleaching agent, and drying the web without washing out the residues of the bleaching reaction.

Paperboard—Wood—Adhesives—Paper

The facts excerpted from the National Packaging Conference at Atlantic City, N. J., April 17-19, show that we have gone over the hump and more normal conditions can be expected, unless!!!

PAPERBOARD[1]

Economists tell us that the first phase of this war economy is over, we have had tremendous inflation, prices have gone sky-high and consumer goods have been selling at extremely high levels.

Now the emphasis is shifting to battleships, tanks, guns, etc., but these are not packed in cartons or paperboard. If there was to be an eight million man defense force that had to be clothed and fed and bedded down, then you would have a tremendous need for paperboard, but no such defense force is planned.

So, if we are over the hill on civilian consumer scare buying and do not have to get over the hill of supplying packaging supplies for a tremendous defense force, it seems to me that the picture is one of a long term, high production and consumption of paperboard — stationary for the time being, but liable to move quite suddenly because of changes in consumer reactions.

If war does not come by midsummer, and the experts say if it does not, it will not come for at least two years, and people are lulled into a feeling of complacency, you could have a surplus of board because there probably would be no more scare buying, or if people earned lots of money and decided to spend it anyway, you could have a resurgence of consumer spending which would probably mean a continued scarcity of board.

To my way of thinking, we should watch every indicator for possible changes in material markets — every signal light that might mark a switch in consumer and industrial requirements.

I was asked to include in this talk something about substitutes. What is a substitute for board? If you want to consider substitutions by grades that is one thing, but what do you have for a substitute for a box made out of plain chip? A paper bag? Even these are on allocation by the manufacturers, and right away the question comes up of efficient stacking on shelves and good sales appearance.

No, I don't believe there is a satisfactory economical substitute for the paperboard carton unless you want to just eliminate the carton and pack your goods in a shipping container.

Paperboard cartons are not made of rubber, but the supply has been stretched before to cover the most essential needs, and I am sure that manufacturers, distributors and buyers working together can do it in this present emergency.

WOOD[2]

Since the outbreak of hostilities in Korea, the consequent upsurge of both domestic, sub-contracting and direct government requirements has put a sudden burden on wooden container manufacturers throughout the country to an unprecedented degree, and without warning. There is naturally, in the transition from timber to dry lumber of 18 percent moisture content, a seasoning period of approximately 9 months in the northern section of the country, and perhaps 6 months in the southern. This, of course, implies inadequate kiln drying facilities to help the scarcity.

In the early part of 1950 lack of demand and orders, and the threat of inflation, caused reduction in inventories. Wooden container manufacturers are still experiencing the headaches of attempting to re-build, above normal, inventories required to meet a rather unpredictable volume. Beginning in June and July of 1951 a considerable improvement is indicated. It has taken time.

When the upsurge started in June of 1950, a normal and usual supply of choppers, operators and truck drivers were engaged in the summer pursuits of farming, road-making, construction and what-have-you. During warm weather and fly time, it was a difficult thing to recruit additional workers. It took months to persuade discouraged operators and contractors to go back into business. Those actively engaged were occupied with immediate orders for higher priced grades and species flowing into the house-building field and one might add a common expression, "green from the pit."

It was late fall before crews had been re-established, and in the last six months much effort has resulted in merely replacing depleted stocks, rather than building total adequate supplies. Labor is still critical.

In a period of inflation, an unparalled demand between normal and unusual lumber requirements, wooden container producers have had to face a surging

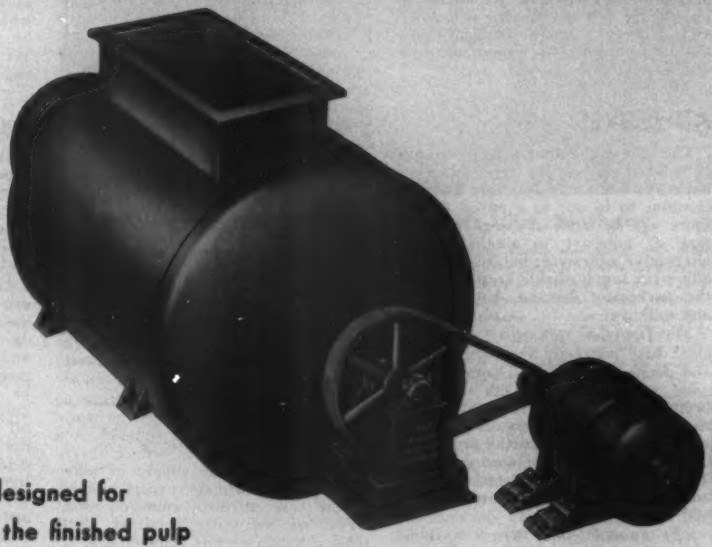
[1] From an address by Stuart T. Edgerton, Division Purchasing Agent, United States Rubber Co., New York City.

[2] From an address by Nathan Tufts, Director, National Wooden Box Assn., Vice President—General Manager, New England Box Co., Greenland, Mass.

The Rice Barton DynoPulper

a high production machine

...ideal for disintegrating pulp, broke or waste papers



Other DynoMachines:

- The QuatroPulper is designed for processing stock in large capacities . . . either batch or continuous operation.
- The DynoChest is primarily for disintegrating stock in slush form . . . batch operation.
- The DynoFiner is for performing the same operation on a continuous basis.

The DynoPulper is also designed for continuously discharging the finished pulp

THE stock is charged all at one time into the top of the vat. Two DynoPellers (described below) subject it to the vigorous dynomizing action that completely separates each fiber from its neighbor without cutting or shortening and with a small drop in freeness. The simple operating principle and design of the DynoPulper eliminates the "wracking" and grief of other types of pulpers. Because there are few moving parts there is no loss of production time due to repair or adjustment. The DynoPulper defibers the stock at low cost and produces a high quality slurry quickly and effectively.

RBR-9

The DynoPeller

is the heart of all DynoMachines. Its concave face is lined with rough, hard carbide particles. As the DynoPeller rotates it causes a suction at its center that pulls the stock towards it. Centrifugal force then causes the stock to flow rapidly over the rough carbide particles under a gentle hydraulic pressure. This effective dynomizing action completely disintegrates the stock . . . separating each fiber from its neighbor while maintaining its original length.

RICE BARTON *Research Corporation*

WORCESTER 1, MASS.

demand for materials for the new construction of homes, industrial buildings and institutional construction. The building trade seems to be catching up, from not only the dearth of construction during the war period, but for the years of the depression of the 1930's.

In conclusion, it can be freely stated that the future is more hopeful. The injustices of a crazy market in a topsy turvy world has about run its course. Those who require raw materials for contract production have met the situation, have found new ways to accomplish their purpose and are wiggling out of a predicament. Inventories have begun to improve, uses are approaching a point of balance, labor is happier, and as always happens, the law of supply and demand is levelling off price differences.

ADHESIVES[3]

The adhesives industry feels optimistic about the supply picture. Some basic raw materials are tight and will continue to be so; to a minor degree, there will be some shifting from one type of adhesive to another, or to alternative adhesives; but, over all, the adhesives supply should keep pace with the packaging demand, both civilian and military.

(1) *Dextrine Adhesives:* The principal base materials are corn, tapioca and potato. Tapioca and potato are in good supply, and although there has been heavy demand for and limited supply of corn dextrines, no adhesives manufacturer should curtail production because of the lack of corn dextrines. Thus, in this major classification of adhesives, the supply picture is good and encouraging.

(2) *Animal Glues:* Prices have increased generally on all animal glues and plasticisers. Supplies are stiffening and shipments may be delayed a little longer than usual, but there is no need to be alarmed by any talk of shortages on these items.

(3) *Resin Emulsion Adhesives* are becoming more and more important to the packaging industry, primarily because of their fast-setting and water-resistant properties. Since World War II there has been a substantial shift from dextrin-base adhesives to resin-base adhesives. Along with other industries, the consumption of vinyl-base emulsions by the adhesives industry showed substantial gains during 1949 and 1950. Base resin suppliers planned to increase production as early as 1949 but there has been a long delay, and in the case of one large supplier, production schedules have frequently broken down. Resin materials have, therefore, been in critically short supply for the last five months and will continue to be so until new plant production increases. During the last six weeks, the production of basic raw materials has begun to show some, but disappointing, improvement. If production progressively improves, resin emulsion adhesives should reach normal supply by summer; if production breaks down, then it is anticipated that both polyvinyl alcohol and polyvinyl acetate, the two most important raw materials, may come under NPA allocation, with the result of resin emulsion adhesives being supplied to the more essential packaging uses only.

(4) *Pastes:* We have experienced no shortages in pastes and anticipate none, except possibly in those products which contain solvents or plasticisers to assist them in cutting varnishes or pyroxylin. Solvents and plasticisers are somewhat tight, at present, so these specific pastes are rather short. We suggest that your normal purchasing pattern be followed on regular pastes, and that you place orders considerably in advance for the special types.

(5) *Lacquer Adhesives:* A few years ago, emulsions replaced lacquers in many operations. Convenience was the main reason for this change. The trend is now reversed because of the resin emulsion supply situation. While some lacquers are also tied up in raw material shortages, many are available. These should be looked into by the cellulose film converters for bags, window work, and lamination.

So much for the specific picture on special types. In general, if the world tension diminishes this summer, and the recent tendency to reduce inventories continues, the supply of adhesives will be adequate, except possibly in the case of resin emulsion adhesives; on the other hand, if world tension increases this summer and requires a step-up in our military program, there may be temporary instances of short supply of certain types of adhesives.

PAPER[4]

Total production of unbleached kraft papers is now about 12 percent greater than last year. It is true there was a decline of nearly 20 percent in the production of unbleached kraft wrapping paper from 102,000 tons in the first quarter of 1950 to 85,000 tons this year, but this was largely due to increased production of bag and sack papers which increased approximately 30 percent. Asphalting, gumming and envelope papers increased 10 percent. This switch in grades is simply a continuation of a trend that has been taking place over the past decade, which has been accentuated by the remobilization effort.

I am told that this decrease will not continue and that in all probability production will total approximately 30,000 tons a month in future.

Sanitary food board containers of all types consume nearly 600,000 tons yearly, and the prospects for future supply are good inasmuch as productive capacity will be increased from 3 to 5 percent this year.

Production of all commercial and industrial tissue grades including fruit and vegetable wraps, twisting tissue, creping, pattern, etc., as well as wrapping tissues approached 200,000 tons in 1950. Wrapping tissues are in demand in a wide range of grades for endless uses in industry also converting, wholesale, retail, and consumer levels.

Again it is difficult to state what the prospects are for future supply, capacity is being increased to an extent which under ordinary conditions would be more than sufficient to meet the average normal yearly increase in consumption.

SULPHUR-IRON FROM PYRITES

OTTAWA—Negotiations are currently proceeding for an early commencement of important project by the Noranda Mines Co., of Canada, involving the construction of a commercial unit for the production of sulphur and iron from Noranda pyrite.

H. L. Roscoe, vice-president of the company, says the sulphur process is designed to produce sintered iron-oxide (iron ore), elemental sulphur and sulphur dioxide gas. Approximately 35 percent of the sulphur can be converted into elemental sulphur quite easily and the remainder comes off as sulphur dioxide gas, which is the raw material from which sulphuric acid is made. If freight rates are not too onerous, the most logical location for a sulphur-iron plant would be in an industrial area of Canada where both steel and sulphuric acid are made. There the pyrite concentrate could be processed, the sintered iron-oxide sold to a steel company and the sulphur dioxide gas sold to a nearby sulphuric acid manufacturing plant, report states. The elemental sulphur would stand shipment to distant markets.

Report points out that the demand for elemental sulphur has exceeded the supply in recent years and the price has increased 20 percent during the past year. Mr. Roscoe says it seems reasonable to expect that if and when the practicability of the process has been demonstrated by this proposed initial unit, it should not be difficult to find locations for similar or larger plants, all of which could be supplied for many years with pyrite obtained from the large body of pyritic material that has been developed on the lower levels of the Horne mine. It is estimated to contain 100 million tons averaging 50 percent pyrite and containing low values in gold, silver, copper and zinc.

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[3] From remarks made by Kenyon Loomis, Adhesives Manufacturers Assn. of America.

[4] Excerpts of remarks made by Thomas J. Burke, Secretary-Treasurer, Sulphite Paper Manufacturers Assn., Inc., and Secretary-Treasurer, Glassine and Greaseproof Manufacturers Assn., Inc., New York.

SUPPLIERS

LAGOE-OSWEGO CORP., Oswego, N. Y., will manufacture paper mill machinery and do general machine work. David A. Falk has been named president and Marvin Falk, secretary-treasurer.

SCHUTTE and KOERTING CO., manufacturing engineers, announce the consolidation of general offices and manufacturing facilities in one location in an enlarged modern plant at Cornwells Heights, Bucks County, Pa.

CONSERVE STEEL STRAPPING

J. M. Moon, director of sales, Signode Steel Strapping Co., who, with other members of the strapping industry advisory board, has been active in Washington, reports the situation critical because the NPA has not yet given the strapping industry sufficient steel priorities to enable individual processors to keep abreast of orders.

Mr. Moon said, "The stepped-up demand by the military and by high priority civilian production, combined with a limited allocation of steel to the strapping industry, compels us to resort to stringent regulations for the distribution of our share of strapping. We desire to see to it that all our customers get their normal supply, but we must place ahead of all others those who have high DO ratings.

"Signode must now refuse new business except on defense order ratings; allow no additional strapping to old customers for new applications; ship no more at best than 85 percent of pre-Korean volume to each customer; and use its field engineering staff to help cut strap requirements through employment of more efficient strapping and bracing methods."

How vitally the decisions of the strapping industry to restrict the distribution of its products will affect the paper industry is shown in a letter to Signode from Donald Appleton, vice-president in charge of manufacturing, Oxford Paper Co., New York, N. Y. Mr. Appleton says, "Paper has been shipped on steel strapped skids for over 20 years and neither we nor the publishers could handle today's volume of paper in any other practical way. Our plants and our handling equipment were designed for handling paper on steel strapped skids. If steel strapping were available in lesser quantities than it is today, we cannot visualize how we could ship paper packed in accordance with existing specifications and requirements."

Many firms in the paper industry use the most modern materials handling methods which include power lift trucks, pallets and automatic machines for tying and bundling. These operations depend upon steel strapping. The big investment made in these kinds of cost-reducing, labor-saving equipment by paper shippers will be made entirely useless without adequate supplies of tensional steel strapping.

According to Mr. Moon, cooperation between the strapping and the paper industries can bring about an improvement in the situation. The strapping industry has already launched vigorous, remedial action through an Advisory Committee which is working with the Container and Packaging Division of the NPA in Washington. Individual and committee action seems to be the obvious course to be taken next by the paper industry itself.

Taylor Instrument Celebrates Its 100th Birthday

From a simple beginning of making household thermometers, Taylor now makes over 8000 variations in control and measuring instruments. Its products have made a notable contribution to better pulp and papermaking. It has achieved signal success in developing a long line of firsts in practical operating instrumentation such as grinder temperature control, automatic sulfite digester controls, roll pressure controls, both for the presses and calenders. Pictured is John Thompson pointing out the location of the bench he occupied when he joined Taylor 66 years ago. Mr. Thompson, a thermometer maker, has the longest record of continuous active service in the history of the company, having retired in 1950 upon completion of 65 years on the job. The building to which he is pointing was abandoned in 1906.

William J. Weed, (left) Manager of Sales and Louis E. Bauer, (right) Manager of Production for Niagara Alkali Co., have been elected vice-presidents of the company. Mr. Weed has been with the company since 1913 and Mr. Bauer since 1917.

PRICES

The prices below reflect market quotations in New York at the mill level on standard grades. Most orders accepted, however, at price prevailing on date of shipment. Does not include spot offerings.

PAPER AND BOARD

Standard News, Delivered Ports

Rolls, contract, per ton	$105.00/110.00
Sheets	110.00/ —

F.o.b. Mills. C.l. Frt. allowed, dock, N. Y.

Kraft— pr cwt., 40# base wgt.

Standard Wrapping Rolls	$7.75/ —
No. 1 Wrapping Rolls	8.25/ 8.50
Standard Bag	7.50/ —

Tissues— per ream 24x36 (480) 10 lbs. 2500 lbs or more

Wh. No. 1 Frd.	$1.95 /$2.25
Wh. No. 1 MG	1.95 / 2.25
Wh. No. 1½	1.85 / 2.15
Wh. No. 2	1.85 / 2.15
Kraft Non-Tar	1.85 / 2.15
White Non-Tar	1.95 / —

Toilet— per case of 100 rolls—1 M sheets

Unbleached 4½x4½	$8.00/$8.25
Unbleached 4½x5	6.60/ —
Bleached 4½x4½	10.00/12.50
Bleached 4½x5	9.85/ —
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	$8.00/$9.75
Bleached 4½x4½	6.95/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½x5, 2-ply	$8.95/10.65

Paper Towels—per case of 3750

Wh. Jr. M'tif'd 9½x9½	$5.75
Br. Sr. M'tif'd 9½x12	4.10
Br. Jr. M'tif'd 9½x9½	3.60
Br. Jr. Sgl. fold 9½x10½	3.65
Bleached 7½x11, 24/25 rolls	$7.00/7.55

Manila, per cwt.

No. 1 Jute Tag, 100-lb., sheets*	$19.55/21.55
Reg. Jute M.F. 40-lb., sheets*	18.00/20.00
Wrapping Manila	8.75/10.50
Printing Manila	10.50/12.00

* Less usual allowance for rolls.

WORLD WOOD PULP MARKETS

Second Quarter Contract Prices, Per Short Air-Dry Ton

	Varying freight allowances		Atlantic Ports		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$85.00/100.00	$95.00/100.00			
Sulphate, Bleached	135.00/175.00	190.00/200.00	*$255.00/315.00		
Sulphate, Unbl. Northn.		145.00/175.00	*225.00/295.00	$200.00/ —	
Sulphate, Unbl. Southn.					*225.00/ -
Sulphite, Bichd. (Sftwd.)	135.00/145.00	160.00/175.00	*250.00/290.00	*225.00/ —	
Sulfite, Bichd. (Hdwd.)	155.00/ —				
Sulphite, Unbichd.		150.00/160.00	*225.00/265.00	*200.00/ —	
Sulphite, Unbl'd (Glassine)		164.00/ —	*227.00/ —		
Soda, Bichd.	140.00/142.50	155.00/160.00			
Siderurgs, Pulping News	106.00/ —	106.00/ —			

* On dock. † Delivered.

Gummed Tape—per bdl., 500 bdls. or more

90-lb. 375 ft. GSI	$7.20 / —
60-lb. 600 ft. GSI	7.20 / —
35-lb. 800 ft. GSI	8.28 / —
35-lb. 500 ft. GSO	6.21 / —

Boards, per ton—

Filled News	$107.50/ —
Plain Chip	105.00/107.50
Bichd. Mix. L.L. Chip	147.50/ —
White Pat. coated .020	170.00/ —
Kraft Liners 42 lb.	115.00/117.50
Kraft Corr. .009	122.50/126.00
Binders Boards	137.50/140.00

The following prices are representative distributors' resale prices.

Rag Content Bonds and Ledgers—White, 20 lb.

	Bonds	4 Cms.
		per cwt.
100% Rag Ex. No. 1	‡	$70.45/$75.90
100% Rag	‡	62.65/ —
75% Rag		48.15/ —
50% Rag		38.90/ —
25% Rag		31.65/ 33.00

	Ledgers	4 Cms.
		per cwt.
100% Rag Ex. No. 1	‡	$72.65/$72.80
100% Rag		63.90/ —
75% Rag		49.40/ —
50% Rag		40.20/ —
25% Rag	‡	33.00/ 34.30

Sulphite Bonds and Ledgers White, 20 lb.

	Bonds	4 Cms.
		per cwt.
Watermarked		$19.00/$20.10
Plain		18.05/ 19.50

	Ledgers	4 Cms.
		per cwt.
Watermarked		$20.30/$21.80
Plain		19.35/ 20.80

White Book

	Conversion Coated	Case
		per cwt.
No. 1		$23.40/$24.60
No. 2		21.90/ 23.40
No. 3		20.40/ 22.40
	Machine Coated	
No. 1		$18.15/$18.40
No. 2		16.15/ 16.65
	Uncoated	
No. 1 Antique (Watermarked)		$18.65/$19.15
Offset		17.40/ 19.90
A Grade E. F.		17.40/ 18.15
A Grade S. C.		18.15/ 18.65
B Grade E. F.		17.65/ —
B Grade S. C.		16.90/ 18.40

‡ Indicates a price change.

WASTE PAPER MARKET

The following quotations were gathered from major dealers in each market. They are an indication of the price range in which volume tonnage was moving on the date specified. Prices to mills, per ton, f.o.b. cars shipping point (includes brokers' fee.) PENDING OPS ROLLBACK, THESE PRICES REPRESENT CEILING RANGE.

	New York	Philadelphia	Boston	Chicago
	April 24	April 11	April 27	April 16
No. 1 Mixed Paper	$25.00/ 26.00	$23.00/ 26.00	$23.00/ 26.00	$27.00/ —
Boxboard Cuts	25.00/ 28.00	21.00/ 23.00	26.00/ —	32.00/ —
Mill Wrappers	25.00/ 30.00	20.00/ 25.00	30.00/ 36.00	29.00/ —
No. 1 News	27.00/ 29.00	24.00/ 28.00	26.00/ 29.00	26.00/ —
Over-issue News	40.00/ 45.00	31.00/ —	30.00/ 45.00	35.00/ —
Corrugated Containers	44.00/ 46.00	49.00/ 53.00	47.00/ 55.00	52.00/ —
New Corrugated Cuts	74.00/ 80.00	50.00/ 51.00	55.00/ 65.00	62.00/ —
Double Kraft Ld. Corr. Cuts	115.00/120.00	105.00/120.00	120.00/140.00	120.00/ —
100% Kraft Corr. Cuts	140.00/165.00	125.00/135.00	130.00/170.00	135.00/ —
Used Kraft Bags	85.00/ 95.00	80.00/ 85.00	85.00/116.50	65.00/ —
No. 1 Brown Kraft Paper	90.00/ 95.00	90.00/ 95.00	90.00/110.00	65.00/ —
Super Resorted Br. Kraft	100.00/105.00	100.00/105.00	100.00/125.00	90.00/ —
New Br. Kraft Env. Cuts	160.00/190.00	160.00/175.00	160.00/180.00	150.00/ —
New Br. Kraft Cuts	150.00/170.00	130.00/140.00	150.00/180.00	140.00/ —
No. 1 Gdwd Shvs.	80.00/ 85.00	65.00/ 75.00	80.00/ 85.00	75.00/ —
White Newsblanks	105.00/115.00	100.00/110.00	105.00/120.00	115.00/ —
No. 1 Flyleaf Shvs.	80.00/ 85.00	80.00/85.00	95.00/110.00	110.00/ —
No. 1 Soft Wht. Shvs.	180.00/190.00	170.00/175.00	175.00/195.00	175.00/ —
Super Soft Wht. Shvs.	190.00/200.00	190.00/200.00	190.00/210.00	185.00/ —
Hd. Wht. Shvs.	185.00/210.00	190.00/215.00	190.00/215.00	180.00/ —
Hd. Wht. Env. Cuts	200.00/245.00	225.00/ —	200.00/235.00	190.00/ —
New Manila Env. Cuts	140.00/150.00	160.00/165.00	140.00/165.00	115.00/ —
Col. Tab Cards	110.00/120.00	115.00/120.00	95.00/150.00	100.00/ —
Manila Tab Cards	170.00/185.00	165.00/190.00	160.00/200.00	165.00/ —
No. 1 Mixed Ledger	100.00/105.00	100.00/105.00	90.00/110.00	100.00/ —
White Ledger	130.00/140.00	125.00/130.00	125.00/140.00	125.00/ —
No. 1 Book & Mag.†	55.00/ 60.00	40.00/ 45.00	40.00/ 60.00	35.00/ —
No. 1 Rep'd. Hvy. Bookst	65.00/ 70.00	50.00/ 60.00	60.00/ 75.00	55.00/ —

* Delivered. † Includes Time & Life; no coarse groundwood. ‡ Net to exceed 10% groundwood.

RAG MARKET

New Domestic Cotton Cuttings
(Prices to Dealers, F.o.b. Ship. Pt.)

ALL PRICES NOMINAL

No. 1 White Shirts	$23.00/$24.00
No. 1 Unbichd. Muslins	23.00/ 24.00
Bichd. Canton Flannels	17.00/ 18.00
No. 1 Lt. Silesias	12.00/ 13.00
No. 1 Lt. Prints	9.00/ 12.00
Wht. Bk. Blue Overalls (Bichable)	15.50/ 16.00
No. 1 Blue Overalls	7.00/ 8.00
Fancy Shirts	6.00/ 6.50
No. 1 Washables	5.50/ 6.00
Suntan Khaki Cuts	11.00/ 12.00
Mixed Khaki Cuts	9.00/ 11.00
Corduroy Cuts	4.75/ 5.25
Cottonades	7.00/ 7.50
Bichd. Underwear Cuts	nominal
Unbichd. Underwear Cuts	nominal

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

ALL PRICES NOMINAL

	Per 100 lbs.
Mixed White	$3.00/$3.50
Cotton Pants & Overalls	3.75/ 5.00
Thirds and Blues, Repacked	3.75/ 4.00
No. 1 Roofing Rags	3.00/ 3.10
No. 2 Roofing Rags	2.40/ 2.50
No. 3 & 4 Roofing Rags	2.20/ 2.30
Roofing Bagging	2.30/ 2.30

New Foreign Cotton Cuttings
(Prices to Mills, F.o.b. Dock, N.Y.)

	Per 100 lbs.
New Dark Cuttings	$4.75/$5.00
New Mixed Cuttings	4.75/ 5.25
Light Silesias	8.00/ 8.50
Light Flannelettes	7.50/ 8.00
New White Cuttings	nominal
New Unbleached Cuttings	nominal
Fancy Shirt Cuttings	6.50/ 7.50

Down Time?

Not on your life!

Sec: Sounds like a big order you just gave. "Cut off that felt and put on a Hamilton!" Busy as we are, won't it take a lot of time to make it fit the machine?

Sup: No, it will go on quick! That's one of the things we like about Hamilton Felts. They're easy to put on . . . fast, too. You see, Hamilton Felts are made to fit each machine just right.

Sec: But, some time ago, I watched them tearing off the edge of a felt that was too wide for the machine.

Sup: Then that wasn't a Hamilton! Hamilton Felts are sized right. That helps them run true at high speeds, too. And they really pull out the water!

Sec: I've noticed in your felt book that Hamilton Felts stay on the machines a long time.

Sup: Smart girl! Another six months and you'll be a papermaker!

Hamilton Felts

MIAMI WOOLEN MILLS

Established 1858

SHULER & BENNINGHOFEN, HAMILTON, OHIO

RESTIGOUCHE
BLEACHED SULPHITE
PULP

for the manufacture of Cellophane, Rayon and Products of Paper

RESTIGOUCHE COMPANY, LTD.

Campbellton, N. B., Canada

Light Prints	6.50/ 7.50
Bleachable Khaki, No. 1	6.00/ 6.50
Unbl. Khaki, No. 1	5.00/ 5.50

Old Foreign Rags

(Prices to Mills, f.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	nominal
No. 2 White Cottons	nominal
No. 3 White Cottons	nominal
No. 4 White Cottons	nominal
Extra Light Prints	5.50/ 6.00
Old Light Prints	4.50/ 5.00
Med. Light Prints	3.75/ 4.00
Dutch Blue Cottons	4.00/ 4.50
Linsey Garments	2.75/ 3.00
Dark Cottons, Egyptian	2.50/ 2.75
Dark Cottons, European	2.75/ 3.00
Old Shopperies	2.40/ 2.50
New Shopperies	2.50/ 2.75

Bagging

(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$8.25/$8.50
Domestic Gunny, No. 1	7.75/ 8.00
Heavy Wool Tares	8.00/ 8.25
Foreign Manila Rope	8.00/ 8.25
Domestic Manila Rope	7.50/ 8.50
Jute Strings	7.75/ 8.00
No. 1 Sisal Strings	8.00/ 8.25
Mixed Strings	nominal
Paper Mill Tares	5.25/ 5.75
No. 1 Scrap Burlap	
Foreign	6.50/ 6.75
Domestic	7.00/ 7.50
Austr. Wool Pouches	7.50/ 8.50
New Burlap Cuttings	7.50/ 8.00

MATERIALS

Aluminum, sulfate:		
cond. bags, wks.	cwt.	1.65
iron-free c.l.		3.35
Alcohol, ethyl:		
tax free, dnas. c.l.	gal.	.77 / 1.02
deld. East Miss.		
Alcohol, methyl:		
Synthetic, Zone 1, dnas. c.l. flt. alld.	gal.	.44
Casein, acid-prec.:		
dom. sh. pt. c.l.	lb.	.41 / .45
imp. ex. dock	lb.	.40½/ .41
Caustic soda:		
c.l. wks. solid, 76%, cwt.		3.35
flak. & grd. 100-lb. drums		3.75
liquid 50% tanks		2.55
liquid 70% tanks		2.65
China clay:		
dom. air-float. filler, c.l. wks.	ton	10.00
water-washed, lump, filler		11.00
coating		17.60 /30.50
imported, ex whse.	short ton	15.20 /28.35
Chlorine:		
single-unit tanks, works	cwt.	3.70
multi-unit	cwt.	3.20 / 4.40
Formaldehyde:		
USP, anh. dnas, c.l. wks.	lb.	.0650/ .0625
l.c.l. E. wks.		.0450/ .0475
Fuel oil:		
Bunker C, No. 6 Cal. bvy tanks, refinery	bbl.	1.95 / 2.15
light	bbl.	2.05 / 2.10
Hydrogen peroxide:		
USP, 35% cbys. E. of Miss.	lb.	.24½/ .25½
Lime:		
hydrated, bags, wks. Buffalo	ton	13.50
Rosin:		
B gum, dnas, c.l. Savan.	cwt.	8.00
G, H, I, K	cwt.	8.79 / —
FF, wood, do.	cwt.	7.20 /
Resin size:		
70%, gum & pale grds, tank cars, south, sh. pt.	cwt.	6.80 / 7.00
Salt cake:		
dom. bulk, c.l. wks.	ton	17.00
wks. frt. all.	ton	20.00 /23.00
Soda ash:		
light, 58%, bags, wks.		1.30
bulk	cwt.	1.20
Sodium silicate 40°:		
turbid, c.l. wks.	cwt.	1.30 /
l.c.l. wks.		1.60 / 1.85
Sodium peroxide:		
dnas. c.l. E. of Miss.	lb.	.19
l.c.l. do.	lb.	.19½/ .20
Soybean, protein:		
chem. isol, wks. c.l.	lb.	.34 / —
Cinn. and Chic.		
Sulfuric acid:		
60° Be. cbys. c.l. wks.	cwt.	1.75 / —
l.c.l. wks.	cwt.	2.05 / 2.60
Sulfur:		
crude, c.l. mines, contract,	long ton	21.00 /22.00
f.o.b vessels Gulf		22.50 /23.50
Export, f.o.b. Gulf		25.00
Sulfur dioxide:		
liquid, cond. cyl. wks.	lb.	.09
multi-unit cars	lb.	.0535
Starches:		
pearl corn, bags, c.l. wks.	cwt.	6.02 / —
white dextrines, c.l. wks.	cwt.	7.41 / —
potato, Idaho, c.l. wks.	cwt.	5.50 / —
potato, Maine, c.l. wks.	cwt.	5.25 / —
tapioca, conv. dextrines	cwt.	8.25 / 8.75
medium grds. Gulf and East Coast ports		6.75 / 7.50
low, Siam, on dock N. Y.		5.75 / 6.00 nominal
Talc:		
domestic, 50-lb. sacks, c.l. wks.	ton	25.00 /30.00
Titanium dioxide:		
anastase, c.l. deld., bags	lb.	.21 / .21½
l.c.l. deld.	lb.	.22 / .22½
rutile, c.l. deld.	lb.	.23 / .23½
l.c.l. deld.	lb.	.24 / .24½

N.B.: For special market conditions, see *Trends*.

IMPORTS

IMPORTS AT NEW YORK

Week Ending April 21

Cigarette Paper

(———), Britannic, Liverpool, 50 cs.
Cork Import Co., American Scout, Glasgow, 1 cs (for tipping).

Tissue Paper

B. F. Drakenfeld & Co., Britannic, Liverpool, 50 cs (gauze carbonizing).
(———), American Packer, Liverpool, 1 cs.

Gummed Paper

B. F. Drakenfeld & Co., Britannic, Liverpool, 97 cs.
B. F. Drakenfeld & Co., Franconia, Liverpool, 37 cs.
B. F. Drakenfeld & Co., American Packer, Liverpool, 94 cs.

Surface Coated Paper

Gevaert Co. of America, Stavelot, Antwerp, 51 cs.
E. de Vries Co., K. C. Rogenaes, Antwerp, 1 cs.

Coated Paper

Gevaert Co. of America, Jessie Maersk, Antwerp, 97 cs.

Filter Paper

H. Reeve Angel & Co. Inc., America, Southampton, 31 cs.

Writing Paper

American Express Co., America, Southampton, 1 cs.

Parchment Paper

A. Doniger Paper Co., Cape Nome, Hamburg, 2 cs.

Parchment

Meadows Wye & Co., Queen Mary, Southampton, 1 cs.
Intermaritime Forwarding Co., Southampton, 1 cs.

Photo Paper

Alco Photo Supply Corp., Queen Mary, Southampton, 8 cs.
J. J. Gavin Co., Queen Mary, Southampton, 8 cs.

Printing Paper

F. C. Stryse, Vezndam, Rotterdam, 29 bls.

Rice Paper

(———), Pioneer Land, Keelung, 15 cs.

Paper Towels

H. W. Robinson Co., American Importer, London, 5 cs.

Serviettes

H. W. Robinson Co., American Importer, London, 2 cs.

Wrapping Paper

The Borregaard Co. Inc., Stockholm, Gothenburg, 90 rolls.

Tracing Cloth

Keuffel & Esser Co., American Chief, Manchester, 11 cs (bleached cotton).

Stencil Paper

Elliott Addressing Machine Co., Agamemnon, Kobe, 13 cs.

Baryt Paper

W. Reimerdes, American Farmer, Bremen, 15 cs.

Miscellaneous Paper

E. de Vries Co., K. C. Roganaes, Antwerp, 1 cs.

Rags, Baggings, Etc.

E. J. Lang, American Importer, London, 36 bls jute rags.
J. Eisenberg, Cape Sable, Buenos Aires, 7 bls wool rags.
Bankers Trust Co., K. C. Roganaes, Antwerp, 90 bls old rags.
Midwest Waste Materials Co., Valencia, Antwerp, 357 bls scrap bagging.
E. Butterworth & Co. Inc., Valencia, Antwerp, 87 bls waste.
New England Waste Co., Malancha, Calcutta, 162 bls jute rags.
Castle & Overton, Inc., American Scout, Belfast, 30 bls paperstock.
Castle & Overton, Inc., American Scout, Glasgow, 67 bls paperstock.
National City Bank, American Scout, Glasgow, 49 bls paperstock.
E. J. Keller Co., Inc., American Scout, Glasgow, 82 bls paperstock.
(———), American Scout, Glasgow, 134 bls paperstock.
H. Adlerstein, H. Stevenson, Genoa, 126 bls jute rags.
H. Adlerstein, H. Stevenson, Venice, 126 bls jute rags.
Chase National Bank, Pacific Stronghold, Bombay, 50 bls rags.
National City Bank, Jalaketu, Bombay, 200 bls old jute rags.
Chemical Bank Trust Co., Jalaketu, Bombay, 100 bls old jute rags.
(———), Jalakirti, Genoa, 114 bls old bagging.
1st National Bank of Boston, Elmira Victory, Venice, 127 bls bagging.
(———), Elmira Victory, Venice, 36 bls rags.
Castle & Overton, Inc., Elmira Victory, Trieste, 49 bls rags.
J. Stein, Brazil, Buenos Aires, 29 bls rags.
Leigh Textile Co., American Chief, Manchester, 132 bls bagging.
E. J. Lang, American Chief, Manchester, 59 bls jute waste, 191 bls scrap bagging.
Darmstadt Scott & Courtney, American Chief, Manchester, 263 bls old bagging.
(———), American Chief, Manchester, 576 bls jute waste, 94 bls bagging.
Darmstadt Scott & Courtney, American Chief, Manchester, 128 bls hessian bagging.
E. J. Keller Co., Inc., American Chief, Manchester, 52 bls tares.
Chase National Bank, American Chief, Manchester, 94 bls bagging.

Old Rope

International Purchasing Co., Uruguay, Copenhagen, 92 coils.
(———), Malancha, Calcutta, 360 bls old hemp rope cuttings.

Casein

The Borden Co. Chemical Division, American Miller, Havre, 125 bags.
(———), K. C. Roganaes, Rotterdam, 500 bags.
Tupman & Thurlow Co., Mormactide, Buenos Aires, 500 bags.
Bank of The Manhattan Co., Pioneer Lake, Melbourne, 1000 bags (rennet).
Chemical Bank Trust Co., Pioneer Lake, Melbourne, 100 bags (lactic).
Bank of New South Wales, Pioneer Lake, Melbourne, 2000 bags (lactic).
The Borden Co. Chemical Division, Brazil, Buenos Aires, 2000 bags.
N. Y. Trust Co., Brazil, Buenos Aires, 4000 bags.
Crawford Co., Brazil, Buenos Aires, 1000 bags.

Sulphur

Rushmore Paper Mills, Santa Ines, Antofogasta, 252 bags.
Groveton Paper Co., Bella Dan, Tocopilla, 1250 bags.

IMPORTS AT PHILADELPHIA

Week ending April 21

Elof Hansson, Inc., Elmira Victory, Trieste, 693 bls woodpulp, 1454 bls mechanical pulp.
Belmont Burlap Bag Co., American Packer, Liverpool, 33 bls jute bagging.
Belmont Burlap Bag Co., American Importer, London, 212 bls bagging.
Textile & Paper Supply Corp., K. C. Roganaes, Antwerp, 5 bls paperstock.
(———), K. C. Roganaes, Antwerp, 54 bls jute waste.
Castle & Overton, Inc., American Scout, Glasgow, 116 bls paperstock.
J. H. Schroeder Banking Corp., Pioneer Gulf, Sydney, 100 bags casein.

IMPORTS AT BALTIMORE

Week ending April 21

Chase National Bank, Jalakirti, Genoa, 62 bls. old bagging.
National City Bank, Jalakirti, Genoa, 82 bls scrap bagging.

IMPORTS AT BOSTON

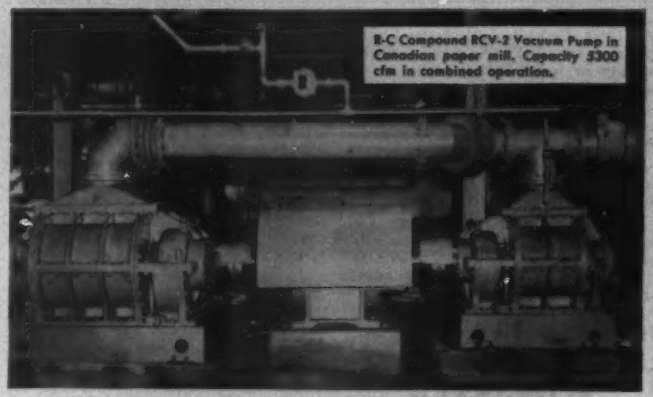
Week ending April 21

Stone & Downer Co., American Chief, Manchester, 114 cuts wallpaper.
Ayres W. C. Jones Co., American Chief, Manchester, 55 bls bagging.
Brown Bros. Harriman Co., American Chief, Manchester, 61 coils old rope.

IMPORTS AT NORFOLK

Week ending April 21

National City Bank, K. C. Roganaes, Antwerp, 97 bls scrap bagging.
National City Bank, Pacific Stronghold, Bombay, 341 bls old jute rags.
(———), Pacific Stronghold, Genoa, 55 bls old bagging.
National City Bank, Pacific Stronghold, Genoa, 71 bls old bagging.
Chase National Bank, Pacific Stronghold, Genoa, 69 bls scrap bagging.
Chase National Bank, Jalaketu, Bombay, 330 bls old jute rags.



R-C Compound RCV-2 Vacuum Pump in Canadian paper mill. Capacity 5300 cfm in combined operation.

YOU GET ALL 5 IN R-C VACUUM PUMPS

Many years of outstanding performances have proved the sound values of R-C Cycloidal Vacuum Pumps, with these 5 important features:

1. **LOW POWER CONSUMPTION**—because units are recommended, either single or compound, to operate at the most efficient point.
2. **NEGLIGIBLE FRICTION LOSSES**—no contact between impellers or impellers and casings.
3. **HIGHER SPEEDS**—permitting direct connection to standard motors, saving first cost, space and weight.
4. **FLEXIBILITY**—to meet varying demands; suction automatically overcomes resistance in system.
5. **DEPENDABILITY**—long-time, attention-free operation, due to simplified design and construction.

Ask for details on R-C Vacuum Pumps and other equipment to handle gas and air in paper mill operation.

Roots-Connersville Blower Corporation
510 River Avenue, Connersville, Indiana

ROOTS-CONNERSVILLE
ONE OF THE DRESSER INDUSTRIES

National City Bank, Jalaketu, Bombay, 915 bls old jute rags.
(——), Jalaketu, Bombay, 270 bls old jute rags.
(——), Elmira Victory, Venice, 242 bls jute waste & bagging.
1st National Bank of Boston, Elmira Victory, Venice, 45 bls old bagging, 18 bls old dark cottons.
F. P. Gaskell & Co., American Scout, Glasgow, 82 cs coated paper for cigarette tipping.
Cork Import Co., American Scout, Glasgow, 3 cs coated paper for cigarette tipping.

NEW LITERATURE

Alfol. Technical data and sales copy, "Alfol Aircell Asbestos Insulation." Reports on the efficiency of the new asbestos. Includes a variety of uses such as in boilers, boiler jackets, pipe insulation, warm air ducts, dryers, etc.

American Wheelabrator & Equipment Corp. Periodical, "Industrial Ventilation." Devoted to the latest developments in industrial dust and fume control. Contains illustrated case histories and an informative technical discussion on the collecting efficiencies of cloth-type filters.

Armco Drainage & Metal Products, Inc. Sales copy, "Installing Stelcon Floor Plates." Illustrations.

The Babcock & Wilcox Tube Co. Technical Bulletin 12F. Contains condensed technical information associated with problems involving the design, fabrication and use of tubing used in elevated temperature and high pressure applications.

ELMENDORF TEARING TESTER

Measure the internal tearing resistance of paper, textiles and sheet materials in gram-centimeters. Dependent upon gravity for its operation, the readings must be correct. Any two Elmendorfs anywhere will perform alike under like conditions. Tearing resistance is the most practical test for wearing quality. It is a measure of service. T.A.P.P.I., A.S.T.M. and Federal Standard. Made in several sizes.

THWING-ALBERT INSTRUMENT COMPANY
5366 Pulaski Avenue
Philadelphia 44, USA 167

Bakelite Co., Div. of Union Carbide and Carbon Corp. Technical data, "Vinylite Vinyl Acetate Resins," 28 pp. Use of graphs, tables and necessary information required to formulate these resins. Includes data on solution viscosity, toughness, film strength, compatibility and softening temperature for each type of resin.

The Borden Co. Bulletin P-16-7D. Chart listing the properties and characteristics of 18 Protovac caseins and caseinates.

Carboline Co. Data Sheet, C-33, "Summary of 159 Corrosion Tests on 'B' Resin." Cites advantages of "B" Resin, a furan base coating, as proven by tests. Bulletin C-32, "'B' Resin." Technical data and sales copy.

Caterpillar Tractor Co. Booklet, "Seeds of Victory." Written in the interest of maintaining a strong military and national defense program. Shows how Caterpillar, through its products, is striving to meet the crisis now facing the world.

Cooper Alloy Foundry Co. Reprint, "Uses Broaden for Cast Monel," by Norman S. Mott. Highlights uses of alloy monel made possible by its valuable properties of corrosion resistance and mechanical strength.

Howe Scale Co. Sales copy, "The New 77 Howe Weightograph."

Ledeen Mfg. Co. Bulletin 512, "Ledeen Valve Actuators." Shows typical valve actuator circuits, capacities of valve actuators and details of construction, application and control.

Macbeth Corp. Bulletin No. 138. Sales copy of Macbeth products for the paper industry: instruments, color matching skylights, etc.

Minneapolis-Honeywell Regulator Co., Brown Instrument Div. Instrumentation Data Sheet No. 2. 9-22a, "Brown Stock Washer Control System Features Flexibility." Describes and illustrates control systems combining master recorder cubicles and individual operator consoles. Data Sheet, 2.9-14a, "Alkaline Pulp Mills Keep Chemical Recovery High Through Use of Engineered Instrumentation." Includes installation photos.

National Lime Assn. Booklet, "Chemical Lime Facts," 42 pp. Discusses many diverse chemical lime uses: in pulp and paper, metallurgy, protective coatings, etc. Includes technical data section which represents permanent reference material.

FOREIGN ABSTRACTS

Papier ja Puu Papper och Tra

January, 1951

Quantitative Method for Determination of Carbohydrates by Means of Paper Partition Chromatography

Charley Gustafsson, Dr. Phil., Assistant Director. Jacobus Sundman, Dr. Techn., Head of the Department for Theoretical Cellulose Research. Thorsten Lindh, Student, Oy Keskuslaboratorio — Centrallaboratorium Ab (The Research and Testing Institute of the Finnish Pulp and Paper Industries, Helsinki—Helsingfors, Finland).

A method for quantitative analysis of mixtures of glucose, galactose, mannose, arabinose and xylose by means of paper partition chromatography is described. The samples to be analyzed are chromatographed parallel with standards on the same paper. The chromatogramme is photographed on a cinema film and the quantitative evaluation of the negative is carried out by means of photometric measurements.

Birch as Pulp Raw Material

Waldemar Jansen, Dr. Techn., Institute of Wood Chemistry, Abo Akademi, Abo, Finland.

The author has carried out sulphate cookings of birch wood under varied conditions. The results are presented in Table 1 and *Figure 1.* The author draws the conclusion that the possibilities of varying the quality of the pulp are limited since a rise in the pulp Roe number over 5 results in an increase in the percentage of screenings. A Roe number less than 4 is of interest only from the viewpoint of bleachability. The desired Roe number can, however, be reached using different conditions, the choice of which is a financial matter.

The Sizing of Hardboard, Hot-air-treated After Pressing

N. J. Ogland, Civil Eng., Research Engirre At Mo och Domsjo Treetex AB. Ornskoldsvik, Sweden. Paper Presented to the meeting of Nordic wallboard engineers at Kotka on 4-5 September 1950.

The sizing of hardboard, hot-air-treated after pressing, is discussed from an ionic point of view. The sizing agent is the rosin of the wood itself, which is believed by the heat treatment to act with the ions bond on the fiber to form rosinates. Diagrams show the influence of the amount of cations, pH and time of heat treatment on strength, water absorption and max. thickness swelling.

High Frequency Preheating of Hardboards before Pressing by the Dry Pressing Method With Glazed Plates on Both Sides

Kosti Helvuo, B. Sc., Enso-Gutzeit Oy, The Insulite Co. of Finland, Kymi, Finland. Paper presented before the meeting of Nordic wallboard engineers at Kotka 4-5 September 1950.

By the dry pressing process smooth surfaces on both sides of hardboard can be produced. The humidity has no outlet while the glazed plates are on both sides of the board, accordingly the wet content of the board must be under 0.5 per cent before pressing. The Insulite Co. of Finland performs this last drying by means of a high frequency heater with an effect of over 125 kW. The bundle of hardboards (10 boards) to be dried will be set between two electrodes with an alternating current tension of 30,000 volts. the number of cycles is 13.6 million per second. In 2 or 5 minutes the final humidity (1—6 per cent) evaporates. The heater is completely automatized which means that its use is very simple.

FRENCH STEEL FOR NEWSPRINT

OTTAWA—France wants to exchange steel for more Canadian newsprint, it is reported as a result of conferences between French Foreign Minister Robert Schuman and Trade and Commerce Minister Howe during the former's visit to this capital.

This is the second time in a short period that a top representative of the Government of France has come personally to Ottawa to press for more Canadian newsprint. A short time ago former Prime Minister Pleven also stressed the urgent necessity for France to get more Canadian newsprint before the elections in France scheduled for the fall.

Foreign Minister Schuman has made it clear that it is essential for France to get newsprint as soon as possible because the shortage in his country is so severe that election material may have to be curtailed. He indicated that, if necessary, newsprint reaching France from Russia and all other sources would be requisitioned by the authorities and distributed amongst the different political groups and newspapers on an equitable basis for election purposes. (ED NOTE: What's wrong with this?)

These appeals for more Canadian newsprint may be forerunners of appeals from other democratic countries, the new angle being that more newsprint shipments from Canada are no longer merely trade or industrial problems but political issues.

CANADIAN TAX CHANGES

OTTAWA—Canadian Government tax changes, which will affect pulp and paper companies both directly and indirectly, include a new 20 percent defense surcharge on corporation income tax where this applies and a boost in the general sales tax from 8 percent to 10 percent, both effective April 11, 1951.

The principal classes of assets in which the Minister of Trade and Commerce will be authorized, in his discretion, to issue certificates of eligibility for current depreciation will be those necessarily acquired for the pulp and paper industries.

The taxes on cigarette papers and tubes are repealed, it is stated.

CANADIAN EXPORTS TO ENGLAND

OTTAWA.—Canadian exports of paper making materials to the United Kingdom dropped to $1,567,379 during February compared with $2,428,670 in January, according to official sources.

EXPORT QUOTAS FOR SULFUR

WASHINGTON, D. C.—Supplemental export quotas for sulfur have been established covering both first and second quarters 1951, the Office of International Trade announces, respectively 30,000 and 20,000 long tons.

NPA TO CHECK UP

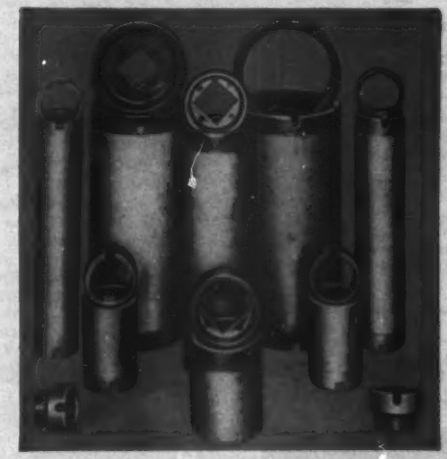
WASHINGTON, D. C. — Intensified measures to assure compliance with regulations of the NPA, U. S. Department of Commerce, were announced April 11.

They will include an expansion of industry surveys and spot checks on compliance, vigorous prosecution of willful violators, and broadening of NPA's cooperative efforts to assist industry in conforming with the agency's regulations.

Federal Trade Commission investigators have completed a compliance survey covering more than 300 members of the aluminum industry, and a second survey has been started by the FTC on behalf of the NPA covering some 300 producers of copper and copper-base alloy products.

In addition, the NPA will soon begin a compliance survey of a cross-section of each industry affected by NPA controls, covering 25 business concerns in each field and including large, medium and small enterprises on a broad basis of geographic distribution.

ESTERLINE-ANGUS CO., INC., manufacturers of recording instruments, have named Robert F. Lamb, sales and service engineer in western New York.



ELIXMAN
CORES
CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

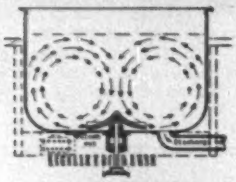
Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.

CORINTH, N. Y.

APMEW
AQUABRUSHER
PULPER & BEATER
(PATENTED)



CENTRIFUGALLY CLEANS
the PAPER STOCK
STRONGER AND CLEANER
FIBRE PRODUCED

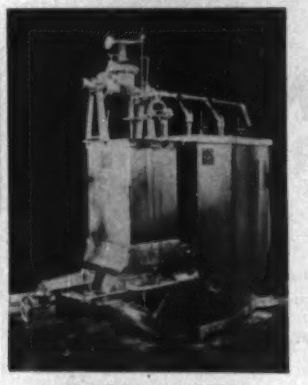
A GOOD INVESTMENT which in many Paper Mills returns its cost TWO TIMES EVERY YEAR.

LET APMEW (70) STANDARDIZED PATENTED PAPER MILL MACHINES PAY YOU WELL for producing BETTER PAPER and for having BETTER BUSINESS, like they are doing for MANY PAPER MILLS...

APMEW, INC.
P. O. Box 1, Glens Falls, N. Y.

QUICK DELIVERIES of ONE WEEK are usual for many APMEW Machines.

It's the Poirier Dual Control
For Economy



QUALITY PRODUCTION
Standard Installation of Poirier Dual Control System
DEPENDABILITY
For Full Information Write
POIRIER CONTROL CO.
WATERVILLE, MAINE
Specialists in Stock Control Equipment for Pulp and Paper Mills

FROM CONSUMER'S VIEWPOINT

(Continued from page 16)

somehow. Will they eventually be forced to go to the sources of supply, the producers of rags and buy from them direct as they did 150 years ago? It could be. If this method still failed to produce, it is not unlikely that our government might institute a program of having cotton raised for the exclusive use of the fine writing paper manufacturers because, as I have pointed out before, paper is a *must* and we cannot exist without it.

At the present time the paper and paperboard manufacturers are producing at the rate of 26,000,000 tons yearly. Of this tonnage it is estimated 1¼ million tons will be the so-called writing paper but this includes Tissue, Index, Bristol, etc. These papers are made from wood and cotton fibers, some all wood, some a mixture of both and some all cotton. The cotton rags or substitutes for cotton rags required will be approximately 80 to 90 thousand tons.

There is another problem of the fine paper mills I would like to mention before I close, and that is the competition they are forced to meet in connection with Sulphite Papers. Production of Sulphite Pulp on a commercial basis began in 1882 and there is no question of its importance in papermaking. For many purposes it is entirely suitable and it is only because of the superior qualities of paper made with cotton fibers that they exist today. Because of these qualities, rag content papers are worth more but there is a limit and the spread in price cannot be too great.

In 1948 the price of American Bleached Sulphite Pulp was $118.00 a ton and it was only $145.00 when frozen last January, an increase of $27.00 or 23 percent and I must repeat that high-grade rags have increased from 145 to 198 percent in the period of one year. If, when the rag ceilings are established and prices of the top grades are reduced to somewhere around 21c, they will still be approximately 100 percent higher than last March.

I have brought these facts to your attention so that you will have a better understanding of our situation. Fine mills are today in the unpleasant position of being forced to pay unfair prices for their raw material and unable to pass these costs on to the consumer because of the competition in the market—Sulphite Papers.

There, briefly, you have the rag situation from the rag content paper makers' point of view. The future looks dark and forbidding, but I believe you gentlemen can do a great deal to help. You must understand our problems and we yours. I am suggesting more cooperation for the good of both the paper mills and the dealers.

NPA REPORT ON PULP AND PAPER

WASHINGTON, D. C.—Activity in the pulp, paper and board industry in 1950 shattered all records, according to the NPA report.

In addition to this high domestic level, the industry was a dominant factor in the United States' foreign trade, with record-breaking imports in the past year of $746 million. Exports totaling $107 million were smaller than in recent years, but as with imports, were considerably above the level of pre-1939 years.

Paper and board production in the final quarter of 1950 was at near-capacity, with an output of 24,300,000 tons, compared with the previous peak of 21,900,000 tons. The report quoted industry estimates that capacity will reach 25,500,000 tons providing raw materials are available.

The total value of sales, $6.8 billion likewise constituted a new high, which, while reflecting some inflation means that volume of production and sales have both approximately doubled pre-war.

Pulpwood receipts in 1950 were 22,600,000 cords, of which 1,900,000 were imported from Canada. Domestic cord wood receipts reflected a rise, compared with a decline of about 450,000 cords in imports, suggesting that domestic forests are supplying a mounting proportion of mill needs.

A rise of nearly 100 percent in pulpwood production is reported from the Southern states, reaching a 1950 record of 11,500,000 cords. Mill consumption of pulpwood in 1950 was above supply by one million cords. However, all areas reported record logging operations in the opening months of 1951, pointing to adequate supplies, although some concern is reflected from the field, as to labor and shortage of equipment in logging states.

Wood pulp production of 14,800,000 tons last year set a new peak, while imports of 2,400,000 tons were higher than for any year except 1937. Paper and board mill consumption totaled 16,500,000 tons; consumption of dissolving grades of pulp rose to about 58,000 tons in December from the former monthly average of 50,800 tons, with consumption for the year about 600,000 tons.

Waste paper receipts in 1950 were also at a new peak at 7,900,000 tons, with receipts and consumption of rags at a high level but moderately less than in 1947, the previous high year.

CAN SPECIFICATIONS TIGHTENED

WASHINGTON, D. C.—Further tightening in the metal can specifications and end-use limitations under NPA's order M-25, is indicated by that agency following a series of meetings here with can manufacturers.

Growing stringency in tin supplies and mounting defense requirements are mentioned.

CONTROLLED MATERIALS PLAN

WASHINGTON, D. C. — Inauguration of a Controlled Materials Plan on July 1, 1951, has been announced by the National Production Authority, in tentative outline.

The plan will cover defense production and certain supporting activities, as to supplies of three basic metals, steel, copper and aluminum for manufacture of essential items.

Under the plan, NPA will tell producers what the Government must have, will furnish a timetable for production of specified items, and will use the plan to assure necessary materials.

A tentative list of products for which application forms will be required includes among many others: paper making machinery, industrial fans and blowers, compressors, conveyors, condensers, heat exchangers, wire cloth, many types of containers including paperboard boxes, fiber cans and tubes and drums; packaging machinery, tanks, boilers and cylinders.

BOXCAR SITUATION IMPROVED

OTTAWA—Transport Minister Lionel Chevrier told Parliament that the boxcar situation in Canada is steadily improving and that 5,000 cars were recently returned from the United States railways so that the shortage was reduced from a peak of 18,000 to only 13,000.

ASSOCIATIONS

SPORTS AND FIELD DAY

The annual get-together for sporting enthusiasts of the Michigan Division of the American Pulp and Paper Mill Superintendents Assn. will take place on July 24 at the Kalamazoo Country Club, Kalamazoo, Mich.

TO FETE FORESTRY GRADUATES

Empire State TAPPI will welcome into the industry the graduating class of the College of Forestry at a dinner to be held at Drumlins Country Club, Nottingham Road, Syracuse, N. Y., on May 18 at 7 p.m. All TAPPI members are invited. Prof. C. E. Libby will make your reservation.

SOUTHEASTERN SUPTS. MEET

The 1951 Spring meeting of the Southeastern Division of The American Pulp and Paper Mill Superintendents Assn. is scheduled for May 4-5 at the Jefferson Hotel, Richmond, Va.

The following papers are to be delivered: "Corrosion in the Pulp and Paper Industry," by H. O. Teeple, Corrosion Engineering Section, International Nickel Co., Inc.; "Testing of Corrugating Medium," by R. C. McKee, Chief, Container Section, Institute of Paper Chemistry, Appleton, Wis.; "Infra-Red Heating and Drying," by Dr. Geoffrey Broughton, Head of Paper Engineering Department, Lowell Textile Institute, Lowell, Mass.; "Pulpwood Procurement in the Southeast," by J. Herschel Keener, President of Southern Pulpwood Conservation Assn. and Manager of Woods Department, Canton Division, Champion Paper & Fibre Co., Canton, N. C.

Howard S. Donald, president, Standard Paper Manufacturing Co., Richmond, Va., is to be the guest speaker at the luncheon get-together on May 4. Dr. Neal Bowmag, Member of Industry Leaders Program, National Assn. of Manufacturers, the guest speaker at the dinner in the evening.

STARTS WEBB PAPER & BOX CO.

H. Palmer Webb is opening a new paper house in Jackson, Miss., which will be known as Webb Paper and Box Co. Mr. Webb has resigned as president and general manager of Central Paper Co. in Jackson.

FINANCIAL

Mead Corp. reports for the twelve weeks ended March 25 consolidated net earnings after taxes of $1,616,797. This compares with $1,073,909 in the corresponding period of 1950. After provision for regular dividends on both classes of preferred shares earnings amounted to $1.45 per share on the 1,061,120 common shares outstanding at March 25, 1951. This compares with $1.35 per share earned on 716,200 shares outstanding on March 19, 1950.

Pasted, multi-wall bag made from tubes produced on No. 10 Type Tuber. May have standard pinched bottom or narrow valve bottom or combination of both as shown.

No. 10 TYPE TUBER

for producing simple or multi-wall tubes for pasted bags. TOP VIEW shows traveling web feed with electric eye, side register control. BOTTOMER shown, produces pinched or valve bottoms. Takes tubes up to 28" wide, 68" long.

Built for present day needs to increase production, reduce spoilage and lower unit costs. These machines are custom-made to your requirements and will give continuous, trouble-free service. Increase your profits by speeding up production with Smith & Winchester equipment.

Multi-wall, sewed valve type, gusseted tube made on Smith & Winchester Multi-wall Tuber.

S & W MULTI-WALL TUBER

Up to 100,000 valve notch tubes each 8-hour day may be produced on this Multi-wall Tuber for sewed valve bags. One to 6 walls. Machine built in 2 sizes, 20" and 28" face. Up to 6" gussets. Tubes 28" to 50" long. Improved cross pasting units, photo-electric compensating drives and flying splice paper roll stands can be furnished. If you have a bag problem write us.

THE SMITH & WINCHESTER
Manufacturing Company
South Windham, Conn.

SERVING THE PAPER AND STEEL INDUSTRY

Lily-Tulip Cup Corp.'s annual report shows a net consolidated income (after taxes) for the year of $3,450,237.25, against $1,803,741.79 for 1949. This is equal to $8.87 per share of common stock outstanding after preferred dividends, compared to $4.46 a share of common stock in 1949, computed on the same number of shares of common stock.

Sales for 1950 (less returns and allowances) were $40,258,583.91, as against $30,816,229.66 in 1949, representing an increase of 30 percent.

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Process Studies, Design, Specifications and Engineering Supervision
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80 Federal Street Boston 10, Mass.

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500 WOOLWORTH BUILDING
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Sinclair Refining Company
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The **DRAPER** *Felt*
DRAPER BROTHERS COMPANY
CANTON, MASS.

Financial News

STOCK REPORT

	Per Share Earnings: Calendar Year 1949	Per Share Earnings: 12 Mo. to Approx. 12/31/50	Indic Annual Divid. Rate	April 25 Approx. Market Price
PREFERRED STOCKS				
Armstrong Cork Co. $3.75 Cum.	$40.95*	$48.30*	$3.75	$95
Armstrong Cork Co. $4.00 Cum. Conv.	40.95*	48.80*	4.00	118⅛
Celotex Corp. 5% Cum.	6.80c	14.34h	1.00	17⅜
Champion Paper & Fibre $4.50 Cum.	60.09f	103.62	4.50	102½
Container Corp. of Amer. 4% Cum.	89.52	123.64	4.00	100⅞
Crown-Zellerbach $4.20 Cum.	54.38c	67.00h	4.20	102½
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.93	16.31	2.50	61¼
Flintkote Co. $4.00 Cum.	62.70	90.41	4.00	101
Robert Gair Co., Inc., 6% Cum.	13.79†	21.28†	1.20	19⅝
International Paper Co. $4.00 Cum.	234.55	289.77	4.00	103⅜
Kimberly Clark Corp. 4% Cum.	85.27	114.95h	4.50	108½
MacAndrews & Forbes 6% Cum.	61.59	82.50	6.00	133⅜
Mead Corp. 4½% Cum.	51.37	97.08	4.25	96¾
Mead Corp. 3% Cum. Conv. 2nd	31.35*	40.05*	2.00	64½
Pabco Products, Inc., 4% Cum. Conv.	56.46	120.12	4.00	101
Rayonier, Inc., $2 Cum.	9.54	17.25	2.00	36⅝
St. Regis Paper Co. 4.40% 1st A	30.74	65.23	4.40	91½
Scott Paper Co. $3.40 Cum.	51.15*	65.41*	3.40	96¾
Scott Paper Co. $4.00 Cum.	51.15*	65.41*	4.00	102½
Sutherland Paper 4½% Conv.	46.92	81.31	4.25	124½
U. S. Gypsum Co. 7% Cum.	283.37	348.48	7.00	178½
United Wallpaper Inc., 4% Cum. Conv.	2.14	0.84	2.00	25⅜
West Virginia Pulp & Paper 4½% Cum.	61.28c	99.26h	4.50	109½
COMMON STOCKS				
APW Products Co.	(d)0.81	0.69	—	7⅜
American Writing Paper Corp.	.04	2.02	0.50	10⅜
Armstrong Cork Co.	6.57	8.13	3.75	57⅜
Celotex Corp.	1.65c	3.78h	1.00	16⅝
Certain-Teed Prods. Corp.	2.84	3.92	1.50	16⅜
Champion Paper & Fibre	5.15f	9.44	3.00	53⅛
Congoleum Nairn Co.	3.04	3.29	2.00	26⅛
Container Corp. of America	4.23	5.87	2.50	37
Crown-Zellerbach	6.02e	7.34h	3.10	52⅜
Dixie Cup Co.	7.44	12.18	3.00	61¼
Eastern Corp.	0.84	4.30	1.00	21⅝
Flintkote Co.	4.33	5.83	3.00	30
Robert Gair Co., Inc.	2.11†	3.37†	0.70	13⅜
Great Northern Paper Co.	4.87	4.33	3.00	50⅜
International Paper Co.	7.12	7.39	3.00	51⅜
Johns-Manville Corp.	4.83	7.22	3.50	58½
Kimberly Clark Corp.	5.29	6.28h	2.40	44½
MacAndrews & Forbes Co.	3.64	3.71	3.00	39½
Marathon Corp.	3.29c	5.40h	2.00	45⅜
Mead Corp.	4.10	5.64	2.30	25⅜
National Container Corp.	0.95	2.41	0.80	12⅝
Pabco Products, Inc.	0.85	1.87	0.60	19⅜
Rayonier, Inc.	4.75	9.61	3.00	50⅛
Ruberoid Co.	7.93	9.64	3.50	56¼
St. Regis Paper Co.	0.91	2.10	0.60	13⅜
Scott Paper Co.	3.04	3.98	2.00	49⅝
Sutherland Paper Co.	4.62	7.66	2.75	49⅝
Union Bag & Paper Corp.	5.01	7.23	3.00	41⅜
United Board & Carton	(d)1.61b	2.71g	0.50	19⅛
U. S. Gypsum Co.	13.51	16.70	10.00	120½
United Wallpaper	(d)0.01	(d)0.01	—	3⅜
West Virginia Pulp & Paper	8.58c	13.73h	5.00	80¾

(b) Year ended 11/13/49
(c) Year ended 1/31/50
(d) Deficit
(e) 12 months to 10/31/50
(f) 9 months to 12/31/49
(g) 12 months to 2/3/51
(h) 12 months to 1/31/51
(*) Earnings per combined preferred shares
(†) Includes domestic and Canadian subsidiaries and 60% equity in Southern Paperboard Corp.

St. Lawrence Corp. reports that another 7,525 first preferred shares had been surrendered for exchange into 15,050 common shares by March 10. Now outstanding are 127,189 first preferred and 857,017 common shares.

Dryden Paper Co., Ltd., has declared a dividend of 40c, payable May 1 to stockholders of record March 31.

Union Bag & Paper Corp. earnings in the first quarter of 1951 are estimated between $2.40 and $2.50 a share. For the first quarter of 1950, the company reported net income equal to $1.57 per common share.

British Columbia Pulp and Paper Co., Ltd., has declared a dividend of $1.75 per share for quarter ending April 30 on 7 percent cumulative redeemable prefered shares, payable May 1 to stockholders of record April 16.

AMERICAN PAPER AND PULP ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	Mar. 17	Mar. 24	Mar. 31	Apr. 7	Apr. 14
1951	103.1	102.6	101.3	102.7r	104.1
	Mar. 18	**Mar. 25**	**Apr. 1**	**Apr. 8**	**Apr. 15**
1950	96.5	97.6	97.0	94.6	84.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	92.6	95.6	96.7	95.4	96.4	97.7	85.3	99.6	96.1	101.0	100.3‡	93.7‡	95.8‡
1951	99.5‡	101.5‡	102.3‡										

‡ Preliminary.
r Revised.

COMPARATIVE YEARLY SUMMARIES

	1944	1945	1946	1947	1948	1949	1950	1951
Year to Date	88.1	88.4	99.7	104.9	100.5	91.7	95.1	101.3
Year Average	88.1	89.4	100.1	104.3	96.2	88.6	95.8‡	

PAPERBOARD OPERATING RATIOS†

	Mar. 17	Mar. 24	Mar. 31	Apr. 7	April 14
1951	106	105	98	106	102
	Mar. 18	**Mar. 25**	**Apr. 1**	**Apr. 8**	**Apr. 15**
1950	92	95	92	93	88

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1950	88	92	91	92	91	94	82	100	96	102	101	93	94
1951	102	105	104										

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

Note: The chart shows the ratio through December 1950 on the basis of 6-day capacity. Beginning with January 1951 the ratio is shown on the new basis of normal 6- and 7-day capacities. Corresponding weekly and monthly ratios for 1950 on the new basis, shown in the tables above, are somewhat lower.

Paperboard operating ratios continue on the basis of a 6-day week.

† Per cents of operation based on "inch-hours" reported to the National Paperboard Association.

OBITUARIES

P. L. Reed, 84, president of the Manchester Board & Paper Co., Richmond, Va., passed away April 13.

Harry Goldman, senior member of the H. Goldman & Sons Co., died on April 16. He had been in the paper industry for over 45 years. He started in the waste paper business and in 1923 converted his business into jobbing and paper converting.

Charles E. Whitten, 62, president of Gair Co. Canada Ltd., Toronto, died on April 18.

Last June, Mr. Whitten became president and general manager of that company and was also elected a director of Robert Gair Co., Inc., New York.

Mr. Whitten had previously held office as vice-president, treasurer and director of the Canadian company since its inception in 1934. He had been in the paper industry for over thirty years.

William M. Cary, 68, died April 14. "Judge," as he was known throughout the industry, had been with the National Container Corp. since May, 1939. At the time of his death, he was production manager of the Kraft Pulp and Board Division in Jacksonville, Fla. He started with the industry in 1912 at the mill at Moss Point, Miss.

His contributions in the development of equipment for the industry, especially in connection with the spray type recovery furnace for the black liquor recovery process and a method of feeding alum following the refining of pulp, are well known. He began experimenting with sprays for use in black liquor recovery furnaces as early as 1923 at Braithwaite, La.

Richard Hallett Meredith Robinson, 76, who retired two weeks ago as chairman of the board of directors of the Minnesota and Ontario Paper Co., of Minneapolis, and its subsidiaries, died on April 23. He was appointed receiver for the company in 1932, helped reorganize it and became its president.

John Wesley Richardson, 76, retired superintendent of the National Biscuit Co. mill at Marseilles, Ill., died April 10. Mr. Richardson retired in 1946 after many years as superintendent of the Crescent Paper Co. and National Biscuit Co.

Harold F. Bullard, 62, vice-president and secretary of Finch, Pruyn & Co., Inc., died in Boston on April 16.

Jacob D. Jenssen, 74, died on April 16. Mr. Jenssen, with his brother, founded the G. D. Jenssen Co., Watertown, N. Y., and introduced new methods for making the cooking acids used in sulphite pulp manufacturing.

Sandy Hill
IRON & BRASS WORKS
PAPER MACHINERY SPECIALISTS
HUDSON FALLS, N. Y.
Builders of
SANDY HILL, BERTRAMS AND KAMYR EQUIPMENT

MISCO
STAINLESS STEEL CASTINGS
FOR ALL EQUIPMENT EXPOSED TO CORROSION BY SULPHITE ACIDS OR OTHER CORROSIVE AGENTS
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SPECIALIZATION...
Modern Processing Methods
• Consider Ferguson's experience and ability when confronted with problems of processing procedures and/or equipment.
Preliminary Discussions In Confidence and Without Obligation
THE H. K. FERGUSON COMPANY
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Headquarters: Ferguson Building, Cleveland, Ohio
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Cleveland 11, Ohio

APPLETON FELTS for DESIGN FINISH

APPLETON WOOLEN MILLS - APPLETON, WIS.

CLEARING HOUSE

HELP WANTED

MEN WANTED POSITIONS OPEN

We can place—superintendents and foremen for converting depts.; night supt. Fourdrinier machine mill making colored specialty papers; production supt.; asst. supt. Cylinder board mill; technical direction for fine paper mill; pulpwood procurement man.

Chemists, chemical engineers and laboratory men; master mechanics, plant engineers, mechanical engineers, chief power plant engineers, electrical engineers, positions paying up to $10,000; finishing foremen; cost accountant; tour bosses Cylinder and Fourdrinier machine mills; salesmen for paper mill equipment; machine tenders and back tenders.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the pulp and paper mills.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St., Boston 8, Mass.
SPECIALISTS IN PLACING PULP AND PAPER MILL EXECUTIVES

A-27

COATING RESEARCH

Man with ½ to 5 years laboratory or plant experience in aqueous coatings for paper, preferably with training in chemical engineering or colloid chemistry. Position is on staff in research and development laboratory of nationally known company, for work using laboratory paper coaters. Location: Northwest suburb of Chicago. Address Box 51-210 care Paper Trade Journal. A-27

MANAGER who can supervise the production and sell the output of a plant converting waste papers into high quality pulps by a new and unique process. Applicant must have up-to-date technical knowledge and preferably sales experience in the pulp and paper industry, and possess the qualifications necessary for the successful management of an expanding business. This is an excellent opportunity. Address Box 51-213 care Paper Trade Journal. A-27

WANTED CHIEF CHEMIST

to head up technical staff for bleached kraft and board mill. CHARLES P. RAYMOND SERVICE, Inc., 294 Washington St., Boston, Mass. A-27

WANTED MASTER MECHANIC ONE MACHINE MILL

Immediate opening, top salary, unusual opportunity, permanent future for energetic, dependable and capable handler of men. Take complete charge of repair and maintenance in Midwest mill making boxboard, testliner and specialties on cylinder machine. Write Box 51-218 Paper Trade Journal. A-27

HELP WANTED

PERSONNEL SERVICE ASSOCIATES

115 State Street, Springfield 3, Mass.

Specialized Confidential Placement Service to the Paper and Allied Industries

Executive-Technical-Sales-Gen. Personnel

(H. M. Grasseff, Mgr. and Personnel Consultant)

We invite your correspondence. A-27

RESEARCH-DEVELOPMENT

Large research and development laboratory has excellent opening for experienced papr chemist. Ph.D. preferred. Location: near New York City. Submit outline of qualifications. Address Box 51-215 care Paper Trade Journal. M-11

SUPERINTENDENT OF FINISHING MILL

Outstanding paper converter in midwest has exceptional opening for man familiar with brush coaters, air knife coaters, and other related equipment.

Must have a record of successful operation in this field.

In reply give complete information as to age, education, salary, family, and reason for seeking change. Also please send photo.

Reply to Box Number 51-200, care Paper Trade Journal. M-4

SALARIED POSITIONS $3,500 to $35,000. We offer the original personal employment service (established 41 years). Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars. R. W. BIXBY, INC. —117 Dun Bldg., Buffalo, 2, N. Y. TF

QUALITY CONTROL ENGINEER

Good opportunity for man experienced with mill operation to take charge quality control supervision in modern board mill specializing in high grade folding box board located in New York Metropolitan Area. System to eventually be integrated with folding box plant.

Address Box No. 51-188, Paper Trade Journal M-4

PRODUCTION CHIEF

Paper converting, nationally known. Printing, coating, gumming, laminating, finishing operations. Lifetime position for top-flight production executive. Our people know of this ad. Send full details confidentially to President, Box 50-443, care Paper Trade Journal. TF

WANTED — TOP GRADE SALESMANAGER for an eastern chipboard mill. Fully experienced and capable. Furnish details of experience, capabilities and references. Excellent opportunity. Address Box 51-78 care Paper Trade Journal. TF

HELP WANTED

PRODUCTION MAN

Paper converting, nationally known, folding box manufacturer. Lifetime position for executive with following qualifications: Production engineer, folding box background, mechanical engineering degree, age 28 to 33, live in Philadelphia. Address full details confidentially to Box 51-164, c/o Paper Trade Journal. A-27

WORKING SUPERINTENDENT for small, fast growing Eastern mill making lightweight specialties. Cylinder machine experience essential. State qualifications and salary expected. Address Box 51-87 care Paper Trade Journal. TF

WANTED — SALES ENGINEER — Experienced in Pulp and Paper Mills, for sales and service work. Excellent opportunity with old established machinery manufacturer. In reply, give resume of education, experience and current salary. Address Box 51-86 care Paper Trade Journal. TF

GRADUATE MECHANICAL ENGINEER—With sufficient ability and experience in the manufacture of fine papers to be responsible for development program and to design, layout and supervise installation of equipment in midwestern mill. Address Box 51-151 care Paper Trade Journal. My-25

WANTED — EXPERIENCED, COMPETENT PURCHASING AGENT for an eastern chipboard mill. Must be capable and fully experienced. Furnish details of experience, capabilities and references. Excellent opportunity. Address Box 51-153 care Paper Trade Journal. TF

CHEMICAL ENGINEER to fill position of Assistant Quality Control Supervisor in large fiber insulation board manufacturing plant, located in South. All replies confidential. Our personnel know of this ad. Address Box 51-208 care Paper Trade Journal. M-18

PAPER MILL CHEMIST—Must have thorough knowledge of high grade boxboard, test liner and imitation kraft. State full experience, qualifications and references in first letter. Address Box 51-212 care Paper Trade Journal. M-11

SITUATIONS WANTED

EXECUTIVE ACCOUNTANT

Capable, cost minded administrative executive, age 40, available immediately. Fully experienced in multi-plant paperboard, folding carton and printing industry. Box 51-197 Paper Trade Journal. M-11

SUPERINTENDENT—TOUR BOSS. Qualifications—Tissue Mill—all grades. Some board experience. Available at once. Address Box 51-179 care Paper Trade Journal. M-4

RATES FOR CLEARING HOUSE ADVERTISING

HELP WANTED—10c a word. Double rate for heavy face type. Minimum charge $3.50.

SITUATIONS WANTED—10c a word, double rate for heavy face type. Minimum charge $3.00. If repeated ½ rate will be charged for each consecutive repetition.

FOR SALE—10c a word. Double rate for heavy face type. Minimum charge $3.50.

WANTED—10c a word. Double rate for heavy face type. Minimum charge $3.50.

OPPORTUNITIES—10c a word. Double rate for heavy face type. Minimum charge $3.50.

Classified advertising space may also be purchased at $5.00 per single column inch. All classified advertisements are payable in advance. If box number is used—70 cents additional.

Address replies to advertisements appearing under Box Numbers to care of PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

Beginning with the issue of May 4, 1951, minimum charge for Classified advertising will be $3.50 per issue.

SITUATIONS WANTED

REFUGEE — Experienced in handling the processing of pulp, wrapping paper, cardboard, seeks employment in paper mill. Willing to start as assistant in any job regarding paper machines. Address Box 51-187 care Paper Trade Journal. A-27

PLANT MANAGER—Paper and Board and their conversion; wants challenging opportunity. Highly successful in organization; administration; labor relations and high level production. Presently employed. Address Box 51-c care Paper Trade Journal. A-27

PAPER MILL ENGINEER—Plant Engineer with design experience sulphite pulp, cylinder and Fourdrinier specialties, desires connection. Address Box 51-121 care Paper Trade Journal. TF

PLANT ENGINEER — Experienced Maintenance and engineering sulphite pulp and paper, desires opportunity with expanding concern. Address Box 51-163 care Paper Trade Journal. TF

PERSONNEL MANAGER experienced in developing and supervising personnel department, including labor negotiations and labor relations. Address Box 51-172 care Paper Trade Journal. A-27

SITUATIONS WANTED

MIDDLE AGE MAN, now employed, fifteen years experience, supervising operation of Grocery, Sack, Specialty Bag Machines, Bag Finishing, Shipping, Warehousing. Also the operation of Gummers, Cameron and Fales Slitters, Hamblet Sheeter, Seybold Cutter. Desires to make permanent change. Prefer South. Address Box 51-199 care Paper Trade Journal. A-27

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TECHNICAL GRADUATE — Twenty-six years practical experience, cylinders and fourdriniers, also converting. Available for managerial, engineering or administrative duties. Krafts, boards and specialties. Address Box 51-206 care Paper Trade Journal. M-4

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SUPERINTENDENT — Broad experience as practical paper maker with considerable technical training. Proven ability in Fourdrinier and Yankee Machine mills manufacturing highly specialized grades. Age 43. Address Box 51-216 care Paper Trade Journal. M-18

FOR SALE

FOR SALE—65" Seybold Paper Cutter; 36" Slitter & Rewinder, 40" Sheeter with Layboy; 30" Waldron 6-color Wall Paper Printing Press; 29 x 40 Thomson Platen Die Cutter; 6" Brightwood Box Machine. Address Box 51-217 care Paper Trade Journal. TF

FOR SALE—74" Knowlton Traveling Shear Cut-off Knife.—Bargain. Address Box 51-105 care Paper Trade Journal. TF

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MACHINERY WANTED FOR OUTRIGHT PURCHASE

Paper Machines, Pulp and Paper Mill Machinery and Converting Equipment.

BEATERS
2—Dilts 750 lb. Iron Tub. Roll 44" face x 90" diameter.
1—Downingtown 1000 lb. Iron Tub. New roll 40" face x 45" diameter.

BELTING—NEW
40 feet 8" 13 ply Goodyear Rubber Belting.
180 feet 8" 4 ply Silver Duck Transmission belt.

CALENDER ROLLS
46 Chilled Iron Rolls—Assorted sizes.

CALENDAR STACKS
1—6 roll—62".
1—5 roll—62".
1—Lobdell 6 roll 124" Calender Stack, with doctors and drives.
1—Farrel Birmingham 110" Calender Stack with Sectors. 2 roll bored for steam.

CONVEYOR
1—18½ ft. long x 30" wide—with motor.

CORE CUTTERS
1—Cameron with 2" x 11½" mandrels.

CYLINDER MOLDS
1—134" face x 36" diameter, with stainless steel shafts.

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2—Falk right angle 75 hp—ratio 6.51-1.
1—Falk straight 200 hp—ratio 1.67-1.
1—Falk straight 150 hp—ratio 2.12-1.

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1—124" face x 42" diameter.
1—60" face x 32" diameter.
1—72" face x 48" diameter—with gear.
1—120" face x 10" diameter—Bahr Dryer.
33—120" face x 42" diameter.
1—60" face x 20" diameter.
1—180" face x 48" diameter, with bearings.
3—100" face x 60" diameter—with gears and bearings.
3—110" face x 42" diameter with bearings and gears.
1—112" face x 60" diameter.
1—100" face x 42" diameter Creping Dryer.
3—42" face x 30" diameter, with frames, gears and bearings.

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1—Downingtown Extractor Roll 100" face x 24" diameter. Anti friction bearings.
1—Downingtown Extractor Roll 120" face x 24" diameter. Anti friction bearings.

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1—New Sperry filter press, size 12, type 41.

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2—Oliver Vacuum Filters. Cylinder 10' face x 8'9" diameter. Steel vat. (300 GPM capacity.

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1—8 plate Sandy Hill Roller Shoe with scrapers.
1—Harnsco 12 plate.
3—Sandy Hill 12 plate roller shoe.

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1—60 Miami, for motor drive.
1—Jones Majestic with base and couplings—
1—20 Acadian with base and coupling.
1—Jones Majestic Stainless Steel Fitting.
1—E. D. Jones #1 high speed Jordan with base and coupling—ball bearing stainless steel fitting.

PASTE LINING MACHINE
1—Downingtown 82", with 4 Dryers 48" diameter.

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1—Mitts & Merrill #17 Pulpwood chipper.
1—Bird ball bearing Pulp Screen. Practically new. Used 6 months.
4—ADNEW Ball Bearing Pulp Screens—30 ton capacity.

PULPERS
2—82 Lamoyo.

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44—Centrifugal Pumps, open & closed impellers. Direct connected or Belt Drives. Extensive base for motor. Assorted capacities and heads. Most used less than one year. Also new Gould Pumps.

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14—Couch rolls, brass and rubber covered.
260—Brass and steel carrying rolls.

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1—82 Bird—iron vat.

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2—Oliver, Vacuum type, cylinder 120" face x 65" diameter, with steel vat.

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1—Valley Voith Screw Press Size 2.

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1—90" Kidder Goat Sheeter.
1—84" Duplex Dilion with 15 roll Back Stand.

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2—Broughton Oscillating Showers for 110" machine.
1—Bird Shower.

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1—American 27" Hamerschlag anti-friction bearings.
1—Kidder Waldron Cutter—type F-11—36" knives. Used 30 days.

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1—Sloan & White 120" Four Drum Paper Machine Slitter and Winder—60" rewind.
1—Beloit 120" Paper Machine Slitter and Rewinder—42" rewind.
1—Cameron 62" Model E, with motor.

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2—Beloit 10 x 20 Triplex with silent Link Belt Chain Drives.
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2—Moritt Stock Regulators.

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1—Millspaugh 22" diameter x 108" suction face.

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1—Millspaugh 131" drilled face x 22" diameter with stand & drive.

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1—Woods Thickener with anti friction bearing. Cylinder 49" diameter x 132" face.

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1—Valley Micronist Unit for water finish on paper—120" double.

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7—Nash H-5 Vacuum Pumps

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1—82"—10-10.
1—82" 26-3A Duplex.
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1—32" Type 40-2A.
1—42" Type 40-1-AF.

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1—30" Kidder Score Cut.
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8—Seybold; 38", 54" and 64" 20th Century, 40" and 50" 10Z, 40" 6Z, 50" Dayton, 54" Holyoke.
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Several Die Presses, Seybold and Sheridan, various sizes.
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M-11

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A-27

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WANTED

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M-4

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Used or new.
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A-27

WANTED—W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic presses, Sheridan Presses, Dryers. Address Box 51-89 care Paper Trade Journal. TF

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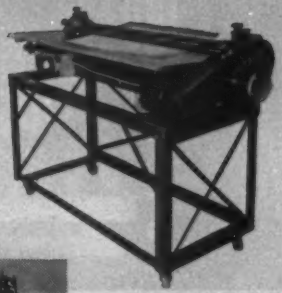

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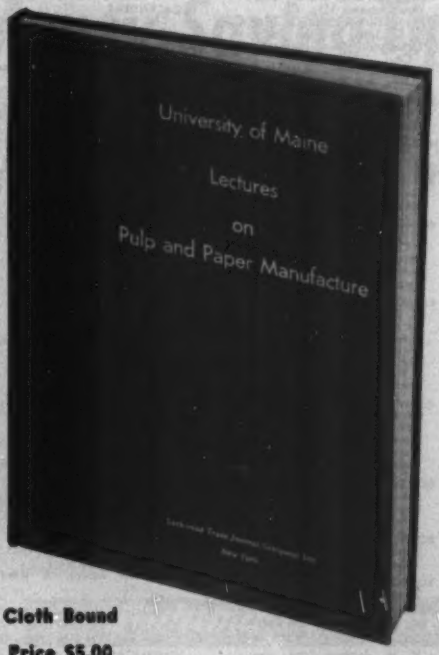

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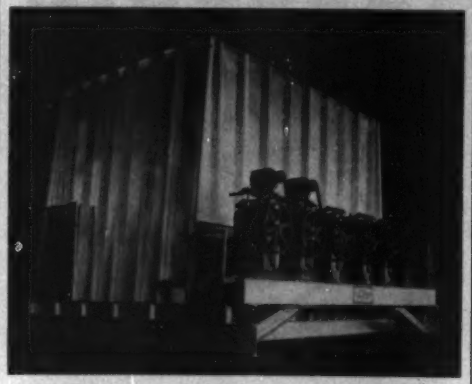

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Shartle Bros. Mch. Co.
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Foirier Control Co.
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Stickle Steam Specialties Co.

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Egan, Frank W., & Co.
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Hudson-Sharp Machine Co.

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Shartle Brothers Mch. Co.
Stephens-Adamson Mfg. Co.

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Jagenberg-Werke Akt. Ges.
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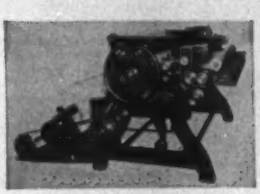

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Monsanto Chemical Company
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Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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Dilts Machine Works
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Gibbs-Brower Company, Inc.
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Bros. Mch. Co.
Stephens-Adamson Mfg. Co.
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Westinghouse Electric Corp.

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DRYER DRAINAGE
Stickle Steam Specialties Co.

DRYER ROLL PYROMETER
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D. J. Murray Mfg. Co.
John Waldron Corp.

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Ciba Company
E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuffs Corp.
National Aniline Division, Allied Chemical & Dye Corp.

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Rohm & Haas Co.
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Vanderbilt Co., R. T.

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• The "FAST THREADED" screw stem and ball bearing speeds valve operation.

• The packing box is extra deep, is adjustable and provided with specialized lubricated packings and special type gland and compression bolts.

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Wyandotte Chemicals Corp., Michigan Alkali Div.

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Shartle Brothers Machine Co

FOURDRINIERS
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Nopco Chemical Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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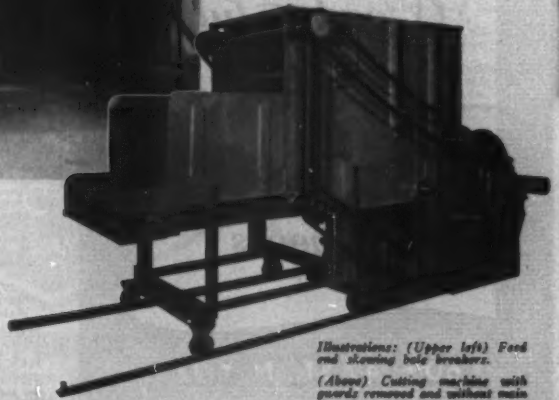

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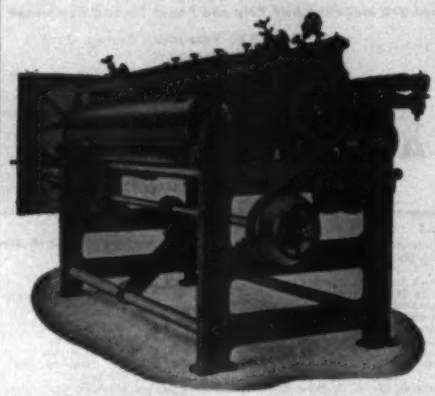

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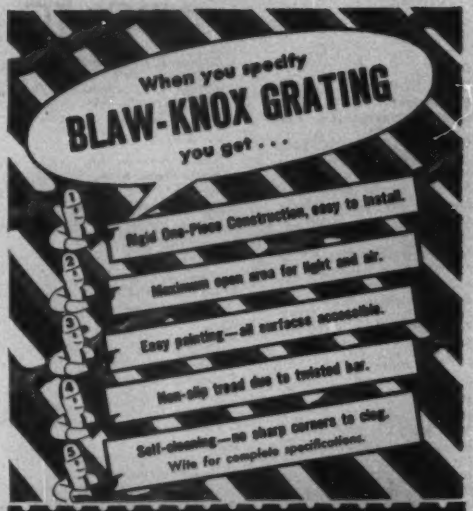
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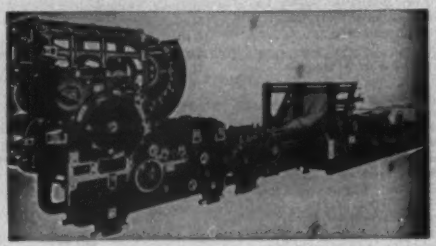

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U. S. Rubber Co. — —
U. S. Steel Corp. — —
United States Steel Export Co. — —
United States Steel Supply Co. — —

V

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Vanderbilt, R. T., Co. — 8
Vaughan, Frank C. — —
Virginia Smelting Co. — —

W

Waldron, John, Corporation — —
Walworth Co. — —
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Wellman Engineering Co. — —
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Williams Gray Company — —
Worthington Pump & Mach. Corp. — —
Wyandotte Chemicals Corp. — —

BUSINESS STAFF

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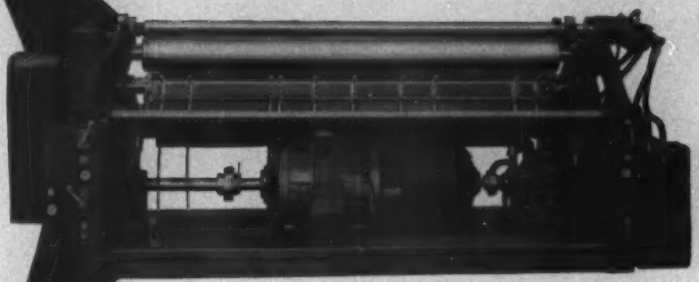
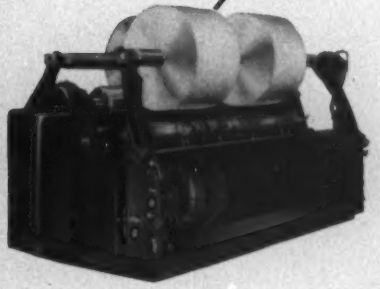
HERE IT IS!

the new B&S duplex REWINDER

OUTSTANDING FEATURES:

- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
- Air-Operated Slitters for strips as narrow as ½ inch
- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical





The new B&S #15 Duplex Rewinder is powered by a Louis Allis Eddy Current Type Variable-speed Drive. A variable volume pump driven by an A. C. motor supplies power to the rewind shafts, and the winder is powered by the Eddy Clutch. By placing the entire drive beneath the machine, B & S designers have saved valuable floor space.

Accurate pressure control and precision winding are achieved by pneumatic cylinders for raising and lowering the rewind arms. For full center winding rewind shafts can be locked in "out" position.

To eliminate all possible vibration, the B & S Duplex Rewinder is mounted on heavy cast-iron bedplate. Fully enclosed piping and easily accessible controls assure smoothness and efficiency in operation, as well as ease and economy in upkeep.

For further details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

designers and builders of

BAGLEY & SEWALL

WATERTOWN, NEW YORK

PAPERMAKING MACHINERY

SINCE 1853

500 FIFTH AVE., NEW YORK 18, N. Y.

North America's largest paper machine sets new record on TIMKEN® bearings

THIS Bagley & Sewall 304-inch paper machine recently set a new record of 275.39 tons of newsprint in 24 hours at the Great Lakes Paper Company Ltd., Fort Williams, Ont. The largest paper machine in North America, this Bagley & Sewall installation is mounted on 1,072 Timken® tapered roller bearings—assuring fast, efficient paper production with minimum time-out for maintenance.

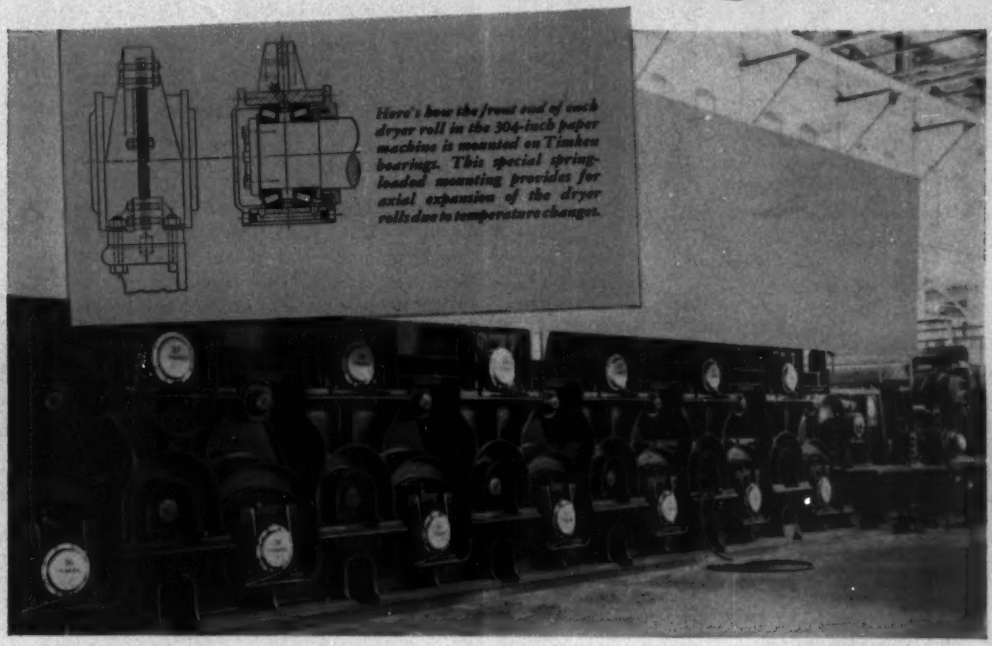
A part of the dryer section of the machine is shown below. It operates under very high temperatures, making it an extremely tough bearing application. Yet in spite of the high temperatures and the 13-ton load of each dryer roll, Timken bearings help speed up production by assuring trouble-free service. And proof of Timken bearings' virtually friction-free performance is the fact that any of the 13-ton dryer rolls can be rotated by hand.

Timken bearings' tremendous load-carrying capacity is due to line contact between rollers and races. Tapered construction enables them to take radial and thrust loads in any combination. Because of true rolling motion and an incredibly smooth surface finish, Timken bearings make friction negligible.

What's more, Timken bearings permit tighter closures that keep the lubricant in—dirt and moisture out. And because they are made of Timken fine alloy steel, engineered for the job, and precision manufactured, Timken bearings normally last the life of the machine in which they're mounted.

Whether you build or buy machines, insist on bearings with the trade-mark "Timken". They're backed by over 50 years of exhaustive bearing research and development, and are industry's first choice. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ont. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



Here's how the front end of each dryer roll in the 304-inch paper machine is mounted on Timken bearings. This special spring-loaded mounting provides for axial expansion of the dryer rolls due to temperature changes.

IT'S TIMKEN BEARINGS FOR VALUE!

To get the best value in bearings you may find this simple formula helpful:

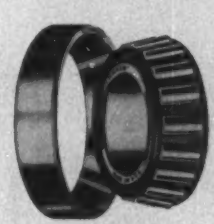
$$Value = \frac{quality + service + public\ acceptance}{price}$$

Obviously a big advantage *above* the line gives you more value than a small one *below*. No other bearing can match the uniform high quality, engineering and field service and overwhelming public acceptance you get with Timken bearings.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ⊂⊃ THE TIMKEN TAPERED ROLLER ⊂⊃ BEARING TAKES RADIAL ◐ AND THRUST →◐← LOADS OR ANY COMBINATION →✳←